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AGRICULTURAL SURVEY OF EUROPE:

THE DANUBE BASIN—Part I.

By

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Bureau of Agricultural Economics

CONTENTS

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THE AGRICULTURAL SURVEY OF THE WORLD.

The farmers of the United States need to know the world demand for the commodities which they produce for the world markets and the conditions under which their competitors are producing in order that they may adjust their production to demands and successfully compete with the farmers of other countries. From a national point of view all have a vital interest in maintaining in the United States a prosperous agricultural industry and therefore have a vital interest in the foreign demand for agricultural products and the competition of foreign producers in the world markets.

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When the United States Department of Agriculture began its survey of the agriculture of the world it undertook to determine, as far as possible, the changes in agriculture, the changes in the character and amount of the competition which our farmers must meet, and the changes in the nature and quantity of the demand for our agricultural products that have taken place and are still taking place throughout Europe and the world's other great centers of production and consumption. Many countries that have not undergone changes of boundaries have been affected by the changed economic status in which the world now finds itself; while those countries that have been affected by a shifting of frontiers consequent upon the breaking up of the Central Powers and Russia have had many complexities added to an already aggravated situation.

The production of certain commodities has been increased in the effort of a consuming nation to become self-supporting or of the producers of certain regions to meet unusual markets; while the production of certain other commodities has been restricted on account of changes in land tenure and for many other reasons, that are numerous and varied and which will be taken up in detail as they affect the production or consumption, the supply or demand of each country considered.

The problem of meeting the demand of the world for food and raw materials is primarily the problem of supplying the needs of a few great cities and industrial centers, although no sharp line of distinction can be drawn. So far as this is true within each country that absorbs our products the surplus producing districts are competing with our farmers to obtain a profitable outlet for their own products just as surely as the surplus producing nations which send their rival cargoes over sea and land. We must know every phase of foreign agricultural conditions which will enlighten us with regard to the nature and extent of both kinds of competition. We must be able to gauge the market conditions and requirements of the great consuming centers more accurately than we have done in the past.

The following report of the agricultural situation in the Upper Danube Basin is the first of the series of reports on the agriculture of those regions of the world that compete with our agricultural products in the foreign field and of those regions that look to us as a source of their supplies of foodstuffs and raw materials to be used in their industrial development.

In taking up this general subject in each country the plan has been to show what is the present agricultural situation with reference to those commodities that are of vital concern to our farmers as contrasted with the agriculture of the same territory during the period immediately preceding the World War. This has required, in several cases, a recalculation of pre-war statistics to adjust the data published by former governments to present-day boundaries.

THE DANUBE STATES DEFINED.

The Danube River, flowing through one of the world's most important grain-surplus producing regions, has been made a great international waterway since the World War. This waterway

extends from Pyret on the Austro-German frontier to Sulina on the Black Sea. Its chief ports are Vienna in Austria, Pressburg (Bratislava) and Komorn in Czechoslovakia, Budapest in Hungary, Belgrade in Yugoslavia, Rustchuk in Bulgaria, and Braila, Galatz, and Sulina in Rumania. These six countries with ports upon the Danube River are called the Danube States.

The Danube has forced a passage called the "Iron Gate" between the ranges of the Transylvania Mountains in Rumania and the Mirotch Mountains (a continuation of the same general system) in Yugoslavia at Novo Orsova. At this point the current is very swift and a canal accommodating smaller boats has been constructed

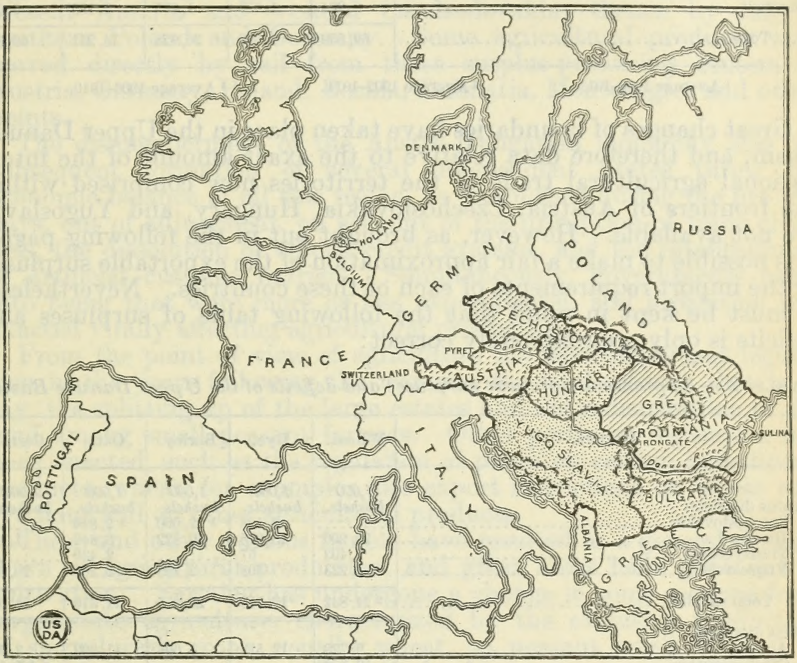

FIG. 1.—Map of the Danube States.

around these rapids. The "Iron Gate" thus divides the river traffic for large steamers into upper and lower Danube shipping.

The general mountain ranges of the Carpathians, terminating at the north bank of the Danube, together with the Balkan Ranges beginning at the south bank of the Danube and stretching away south and east throughout the Balkan Peninsula, constitute an extended watershed that separates the Danube States into the Upper Danube Basin and the Lower Danube Basin. To a certain extent these mountain ranges differentiate the climate of the upper and lower basins.

The Lower Danube Basin includes much of Rumania and northern Bulgaria. The Upper Danube Basin includes northern Yugoslavia, Hungary, Rumanian Transylvania, eastern Czechoslovakia and Austria.

AGRICULTURAL SURPLUSES AND DEFICITS.

Before the war the Lower Danube was a region which produced a surplus of agricultural products. The pre-war exports of the old kingdom of Rumania, Bessarabia, and Bulgaria, were as follows:

TABLE 1.—*Pre-war grain exports from the Lower Danube Basin.*

District.	Wheat.	Rye.	Barley.	Oats.	Corn.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Old kingdom of Rumania [1]	52,080	3,519	16,114	10,732	38,727
Bessarabia [2]	9,355	3,521	8,839	1,334	15,578
Bulgaria [3]	8,224	1,656	1,975	1,165	6,019
Total	69,659	8,696	26,928	13,231	60,324

[1] Average 1909–1913. [2] Average 1902–1911. [3] Average 1906–1910.

Great changes of boundaries have taken place in the Upper Danube Basin, and therefore data relative to the exact amount of the international agricultural trade of the territories now comprised within the frontiers of Austria, Czechoslovakia, Hungary, and Yugoslavia are not available. However, as brought out in the following pages, it is possible to make a fair approximation of the exportable surpluses or the import requirements of each of these countries. Nevertheless, it must be kept in mind that the following table of surpluses and deficits is only approximately correct:

TABLE 2.—*Approximate pre-war surpluses and deficits of the Upper Danube Basin.*

District.	Wheat.	Rye.	Barley.	Oats.	Corn.
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Surplus districts:					
Czechoslovakia	.....	2,128	[1] 12,000	[1] 2,840	.....
Hungary	20,206	15,015	10,322	3,840	1,186
Transylvania	2,403	67	.....	2,430	.....
Yugoslavia [1]	[2] 2,223	508	2,753	2,200	20,374
Total surplus	[2] 24,832	17,718	25,075	11,310	21,560
Deficit districts:					
Austria [3]	9,728	12,513	4,605	11,209	3,709
Czechoslovakia	12,872	.....	.....	.....	[1] 5,553
Transylvania	.....	.....	1,829	.....	1,257
Total deficit	22,600	12,513	6,434	11,209	10,519
Net surplus	2,232	5,205	18,641	101	11,041

[1] Preliminary approximations.
[2] Corrected for the estimated deficit (about 1,200,000 bushels) of the Dalmatian territory occupied by Italian troops.
[3] The estimated pre-war surplus of Burgenland has been deducted from the normal pre-war deficit within the present boundaries of Austria.

The entire Danube Basin produced a net surplus of each of the five chief cereals, approximately as follows:

	Bushels.
Wheat	71,891,000
Rye	13,901,000
Barley	45,569,000
Oats	13,332,000
Corn	71,365,000
Total	216,058,000

TRADE ROUTES.

The greater part of the surplus agricultural products of the Lower Danube Basin (that is of the regions below the "Iron Gate") went down the river and was exported from the Black Sea ports of Sulina and Constantza in Rumania, and from Varna and Burgas in Bulgaria to southern and western Europe. Some products were transported directly by rail from Rumania to Germany.

Much of the agricultural surplus of the Upper Danube Basin (located above the "Iron Gate") produced in northeastern Yugoslavia, central and western Hungary, western Slovakia, and southwestern Transylvania moved up the Danube to central Europe, including present Austria and western Czechoslovakia; thence by rail to southern Poland and Germany. Some agricultural products were moved directly by rail from these surplus-producing centers to Austria, Germany, Poland, Bosnia, Dalmatia, Montenegro, and other points.

The dismemberment of the Austro-Hungarian monarchy and the subsequent formation of several independent States threw the economic balance of all this region, as established during the pre-war days, out of adjustment, on account of the disruption of trade channels, the dissolution of official credit systems, and the establishment of artificial customs barriers. Simultaneously, governments came into being that were more or less experimental, and legislation was enacted vitally affecting agricultural production.

From the point of view of agriculture the most important legislation in the years following the war was the land reform; that is to say, the splitting up of the large estates and the redistribution of the land among small peasant farmers. Other pertinent legislation has been enacted, such as the regulation of prices on certain agricultural products, wheat, for example; also export restrictions on wheat and rye flour and on other agricultural products.

These and other various factors have resulted in a general slowing down of agricultural production, and great areas have gone out of cultivation. Farming has undergone a change in some sections from large-estate agriculture, characterized by the exclusive production of special cash crops, usually wheat, to peasant small farming in which the crops are more diversified. Many strange situations have resulted from the prevailing economic maladjustment in the Danube Basin; for example, Hungary is reported to be importing American wheat for reexport as flour, while flour from native wheat remains stored within the country because of the high export tax on native flour.

As each country emerges from the confusion into which its affairs have been thrown conditions will more or less approach a normal basis. More and more of the abandoned area will come back under the plow and agricultural practices will become more nearly what they were before the war and the disruption of the influences that followed.

Changes, mostly for the better, are to be noted from year to year, but we are interested also in the long-time trend that the agriculture of each nation is taking. In the following pages an attempt has been made to throw light upon the problem of the long-time trend within

a country, while at the same time showing the changes from year to year.

Each country within the Danube Basin presents a somewhat different problem, according to the different situations that have developed. Each of these countries will therefore be discussed separately in the following pages. In logical order Hungary comes first, because the solution of the agricultural problems of Austria, Czechoslovakia, Rumania, and Yugoslavia depends upon the nature of the agriculture of the districts that were ceded by Hungary to each of these surrounding countries.

THE AGRICULTURAL SITUATION IN HUNGARY.

When the old kingdom of Hungary was split up, the territories of Slovakia and Ruthenia on the north were incorporated in the Republic of Czechoslovakia; Burgenland on the west was ceded to the Republic of Austria; Murji, Croatia Slavonia, and Voivodina on the south were incorporated in the Kingdom of Yugoslavia, and Transylvania on the east was ceded to Rumania. Hungary as constituted by the peace treaties comprises the territory occupied by the Magyar peoples in the central part of what was the old Kingdom.

GENERAL CHARACTER OF COUNTRY.

Hungary, as constituted by the treaty of Trianon in June 1920, consists of what remained of the old Kingdom of Hungary after

FIG. 2.—Map of old Hungary.

segregating from it the territories that were ceded to Rumania on the east, to Yugoslavia on the south, to Austria on the west, and to Czechoslovakia on the north. The present total area is 36,887 square miles. It has a population (1920) of 7,945,878, or 215 per square mile. Its capital, the dual city of Buda-Pest, Buda on the west bank, Pest on the east bank of the Danube River, lies on the parallel passing between Seattle and Tacoma, Wash. It has a population of about a million.

The country occupies the great Hungarian plain through which two navigable rivers, the Danube and the Tisza, flow from north to south. Of the people occupying this plain, 88.4 per cent are of Magyar descent; that is, direct descendants of the Huns who conquered this territory in the ninth century and who have continuously occupied it for over 1,000 years. Of the inhabitants 7 per cent are of German blood and 2 per cent are Slavs.

The western portion of Hungary is rolling to hilly and very fertile. The rainfall over most of this region averages from 24 to 40 inches. To the east, between the valleys of the Danube and the Tisza, the country is level to rolling, with marshes along the rivers. On the east bank for many miles back from the Danube the soil is light and not suitable for wheat culture, so that the left bank of the Danube is famous for its rye known as Pest-rye after the county of that name. Rainfall in eastern Hungary ranges from 20 to 28 inches with areas averaging only from 16 to 20 inches.

While all of Hungary is suited to agriculture, the western portion is the region in which most of the exportable surpluses of wheat, rye, barley, and oats are produced.

In 1910, 4,190,527, or 55.1 per cent, of the population of the area now included in Hungary, depended upon agriculture as the source of their livelihood; 3,409,890, or 44.9 per cent, were engaged in other occupations: 1,506,000 were engaged in industry, 345,000 in commerce and banking, and 1,559,000 in traffic, public service, administration, etc.

The area of productive land in 1921, including forests, was 21,500,000 acres, or 93.8 per cent. The area of unproductive land was 1,421,000 acres, or 6.2 per cent.

UTILIZATION OF LAND.

Hungary is primarily an agricultural country, both by nature of her soil and climate, as well as by the percentage of her people occupied in tilling the soil.

The manner in which the land of Hungary is now utilized, contrasted with the manner in which the same area was utilized in 1911, is given in Table 3.

TABLE 3.—*Utilization of land in Hungary.*

CULTIVATED LAND.

Classification.	Old Kingdom of Hungary.		Present Hungarian Territory.			
	1911		1911		1921	
	1,000 acres.	*Per cent.*	*1,000 acres.*	*Per cent.*	*1,000 acres.*	*Per cent.*
Cereals	23,084	74.3	9,778	73.2	8,168	59.2
Leguminous plants	72	.2	24	.2	68	.5
Industrial plants [1]	355	1.1	177	1.3	145	1.1
Tubers, roots, etc	2,417	7.8	1,045	7.8	1,116	8.1
Vegetables						
Forage plants	2,985	9.6	1,415	10.6	1,219	8.8
Other plants	337	1.1	172	1.3	520	3.8
Untilled (fallow land)	1,824	5.9	740	5.6	2,548	18.5
Plow land	31,074	100.0	13,351	100.0	13,784	100.0

ALL LAND.

Plow lands	31,074	44.5	13,351	58.2	13,784	60.1
Meadows	6,722	9.7	1,706	7.4	1,646	7.2
Pastures	8,327	11.9	2,523	11.0	2,501	10.9
Gardens	927	1.3	246	1.1	246	1.1
Vineyards	701	1.0	499	2.2	539	2.4
Forests	18,249	26.2	3,094	13.5	2,714	11.8
Reeds	153	.2	81	.4	69	.3
Unproductive	3,632	5.2	1,422	6.2	1,422	6.2
Total	69,785	100.0	22,922	100.0	22,921	100.0

[1] Includes flax, hemp, etc.

NOTE.—Increase in crop lands over pre-war, 433,000 acres; increase in fallow land, 1,808,000 acres; decrease in land under crops, 1,375,000 acres.

These data show that the present territory of Hungary was the heart of the agricultural section of the old Kingdom, but was poor in forests. The relative area occupied by agricultural land which was 44.5 per cent of the total area in 1911 is 60.1 per cent of the area included in the Hungary of 1921.

The reason for this is that the outlying portions of the old Kingdom ceded to Rumania and Czechoslovakia were heavily timbered, while the portion that forms the present Hungary embraced the treeless lands that lay toward the center of the old Kingdom. The proportion of forest lands which was 26.2 per cent under the old Monarchy was 11.8 per cent under 1921 boundaries. In the old Monarchy there were 152 acres of plow land per 100 inhabitants; in present Hungary there are 176 acres. Little change has occurred on the Hungarian plain between the years 1911 and 1921 except that 1.7 per cent of the forests have disappeared and the plow lands have increased 1.9 per cent. This does not mean that more lands have actually been put under the plow, because much land is being left unplowed. This means that the land that may be plowed has slightly increased in about the same proportion that forests have dwindled.

The areas seeded to the leading agricultural products within the present boundaries of Hungary, contrasting the pre-war period 1911–1915 with the latest years for which statistics are available, are given in Table 4.

TABLE 4.—*Hungary: Area seeded, 1911–1922 (1921 boundaries).*

Crop.	Pre-war, 1911–15.		1920	1921		1922
	1,000 acres.	*Per cent.*	*1,000 acres.*	*1,000 acres.*	*Per cent.*	*1,000 acres.*
Wheat	3,745	38.3	2,662	2,888	34.1	2,854
Rye [1]	1,676	17.2	1,475	1,341	15.9	1,340
Bread cereals	5,421	55.5	4,137	4,229	50.0	4,194
Barley	1,288	13.2	1,266	1,184	14.0	1,129
Oats	862	8.8	802	885	10.5	818
Corn	2,197	22.5	2,017	2,167	25.5	[2] 1,716
Total cereals	9,768	100.0	8,222	8,465	100.0	7,857
Decrease below pre-war average	.....	.....	1,546	1,303	.....	1,911
Per cent of decrease	.....	.....	15.8	13.3	.....	19.6
Potatoes	621	.....	626	665	.....	447
Sugar beets	146	.....	77	103	.....	89
Fodder beets	287	.....	.....	322	.....	.....

[1] Includes maslin.

[2] Preliminary estimate reported by the Hungarian Ministry of Agriculture; but there is probably some error in reporting this figure as there is no reason for decreased acreage in corn. Indeed, in western Hungary, the price for corn was higher than for wheat in 1921, due to a bad season. Compare 1920 with 1921 as to wheat and corn yields in Table 5.

The average production for the pre-war period 1911–1915 contrasted with that of the years 1920, 1921, and 1922 is given in Table 5.

TABLE 5.—*Crop production in Hungary, 1911–1922 (1921 boundaries).*

Crop.	Pre-war, 1911–15.	1920	1921	1922
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Wheat	71,308	38,294	52,715	54,711
Rye[1]	30,825	20,564	23,177	25,156
Barley	31,892	22,585	21,408	20,876
Oats	29,863	22,307	21,964	22,268
Corn	60,800	50,156	31,703	32,493
Total cereals	224,688	153,906	150,967	155,504
Potatoes	92,345	75,967	45,898	33,859
	1,000 tons.[2]	*1,000 tons.*[2]	*1,000 tons.*[2]	*1,000 tons.*[2]
Sugar beets	1,598	703	598	632
Fodder beets	3,915	.....	2,005	.....

[1] Includes maslin. [2] Short tons.

TABLE 6.—*Crop yields per acre in Hungary, 1911–1922 (1921 boundaries).*

Crop.	Pre-war 1911–15.	1920	1921	1922
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	19.0	14.4	18.3	19.2
Rye[1]	18.4	13.9	17.3	18.8
Barley	24.8	17.8	18.1	18.5
Oats	34.6	27.8	24.8	27.2
Corn	27.7	24.9	14.6	18.9
Total cereals	23.0	18.7	17.8	19.8
Potatoes	148.7	121.4	69.0	75.7
	Tons.[2]	*Tons.*[2]	*Tons.*[2]	*Tons.*[2]
Sugar beets	10.9	9.1	5.8	7.1
Fodder beets	13.6	.....	6.2	.....

[1] Includes maslin. [2] Short tons.

The low yields during 1920 and 1921 were due largely to seasonal causes, and to a lesser extent to lack of fertilizers and poorer cultural methods than employed before the war.

From Tables 4 and 5 we have the following distribution per 100 inhabitants of areas seeded and production of the chief agricultural crops:

TABLE 7.—*Area and production per 100 inhabitants in Hungary (1921 boundaries).*

	Pre-war.[1]		1920[2]		1921[2]		1922[2]	
	Acres.	*Bushels.*	*Acres.*	*Bushels.*	*Acres.*	*Bushels.*	*Acres.*	*Bushels.*
Wheat	49.3	938.2	33.5	481.9	36.3	663.4	35.9	688.5
Rye	22.1	405.6	18.6	258.8	16.9	291.7	16.9	316.6
Barley	16.9	419.6	15.9	284.2	14.9	269.4	14.2	262.7
Oats	11.3	392.9	10.1	280.7	11.1	276.4	10.3	280.2
Corn	28.9	800.0	25.4	631.2	27.3	399.0	21.6	408.9
Total cereals	128.5	2,956.3	103.5	1,936.8	106.5	1,899.9	98.9	1,956.9
Potatoes	8.2	1,215.0	7.9	956.1	8.4	577.6	5.6	426.1
		Short tons.		*Short tons.*		*Short tons.*		*Short tons.*
Sugar beets	1.9	21.0	1.0	8.8	1.3	7.5	1.1	8.0
Fodder beets	3.8	51.5	.....	.....	4.1	25.2	.....	.....

[1] Population of 1910, 7,600,417. [2] Population of 1920, 7,945,878.

Referring to Table 4, it is seen that there was a relative decrease in the bread cereals, wheat and rye, from 55.5 per cent to 50 per cent. The great reduction in surplus wheat was due, however, chiefly to decreased production per acre, as shown in Tables 5 and 6. The yield per acre of all cereals has been materially below the average during the last three years. The average pre-war yield per acre of the five chief cereals was 23 bushels against 17.8 bushels in 1921 and 19.8 bushels in 1922.

The decrease in cereal acreage in 1920 was 15.8 per cent below pre-war (1911–1915); while according to the livestock census of 1920 there were also heavy decreases in the numbers of cattle, horses, sheep, and swine, as compared with the enumeration of 1911. The greatest decrease was in sheep, a reduction of more than two-fifths in nine years. In other classes of livestock, as shown in Table 8, reductions are roughly in proportion to the reduction in cereal acreage, as shown above.

TABLE 8.—*Livestock in Hungary, 1911 and 1920 (1921 boundaries).*

Livestock.	Number in—		Decrease.	Per cent decrease.	Number per 1,000 inhabitants.	
	1911	1920			1911 [1]	1920 [2]
Cattle	2,194,474	1,940,516	253,958	11.6	289	244
Horses	883,832	685,345	198,487	22.5	116	86
Sheep	2,299,463	1,339,389	960,074	41.8	302	169
Swine	3,191,868	2,652,744	539,124	16.9	420	334

[1] Population of 1910, 7,600,417. [2] Population of 1920, 7,945,878.

Before discussing the significance of these decreases, both in field crop farming and in animal industry, it is well to examine briefly the difference between farming on large and small holdings.

LARGE ESTATE VERSUS PEASANT FARMING.

There does not appear to be any marked influence of the size of the farm (whether peasant or estate) upon the decrease in wheat and rye acreage, according to the unpublished data furnished by the Hungarian Central Statistical Bureau (Tables 9 and 10). By means of these data we are able to contrast the seeding of cereals on both large and small farms in 1914 with 1921.

TABLE 9.—*Area seeded to cereals on large estates in Hungary, 1914 and 1921 (1921 boundaries).*

Crop.	1914		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*
Wheat	1,282,259	39.4	881,084	33.2
Rye	563,813	17.3	452,667	17.1
Bread cereals	1,846,072	56.7	1,333,751	50.3
Barley	403,618	12.4	379,506	14.3
Oats	382,666	11.8	350,996	13.2
Corn	620,028	19.1	588,745	22.2
Total	3,252,384	100.0	2,652,998	100.0

Decrease below pre-war average, 599,386 acres; per cent of decrease, 18.4.

TABLE 10.—*Area seeded to cereals by the Peasants in Hungary, 1914 and 1921 (1921 boundaries).*

Crop.	1914		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*
Wheat	2,310,642	37.6	1,815,459	33.5
Rye	1,114,584	18.2	917,613	16.9
Bread cereals	3,425,226	55.8	2,733,072	50.4
Barley	865,628	14.1	807,636	14.9
Oats	461,469	7.5	455,489	8.4
Corn	1,390,323	22.6	1,428,574	26.3
Total	6,142,646	100.0	5,424,771	100.0

Decrease from pre-war average, 717,875 acres; per cent of decrease, 11.7.

Referring to Table 4, in 1921 the total decrease in cereal area in Hungary was 13.3 per cent below the pre-war average. The general agricultural crisis following the period of Bolshevism in 1918, which in turn was followed by the Rumanian invasion, is one of the prime causes of this decrease in the area under cereals. The estates responded to this and other influences to a greater degree than the peasants, the former decreasing 18.4 per cent while the latter seeded only 11.7 per cent less than pre-war. The relative decrease in wheat and rye on both large and small holdings was about the same; from 56.7 per cent to 50.3 per cent in the one case and from 55.8 to 50.4 per cent in the other. Both estates and peasants increased the relative rate at which they seeded their fodder cereals—barley, oats, and corn. There appears to be a slight preference for oats on the estates where horse breeding is a specialty and for corn on the peasant holdings where hog feeding is popular.

The heavy decreases in both cereal acreage and livestock indicates a general depression in agriculture affecting barley, oats, sheep, and horses on the estates, and corn, cattle, and hogs among the peasants, while wheat and rye have decreased about equally in each case.

So many causes have united to influence the Hungarian agricultural depression that it is difficult to place an exact interpretation on the situation, or to venture an opinion as to how long it will continue in its present critical state.

The depreciation of the currency has caused the farmers to withhold stocks of grain from the market, excepting such as were absolutely necessary to sell for current expenses and taxes. They preferred to hold their wealth in a form that was stable rather than to exchange it for a constantly depreciating currency. This has accentuated the other factors tending to decrease areas seeded to wheat and rye and has affected estates and peasants in about the same manner. The estates are not seeding their extensive areas formerly under wheat and the peasants are not renting land to plant to crops that they formerly sold for cash. United States Consul Edwin C. Kemp, of Budapest, referring to the agricultural depression states:

> This situation may be attributed, in part, to the land reform law which has caused certain areas, usually sown, to remain uncultivated in view of the attempt made by the Government to divide the estates among inexperienced persons, with the result that very little land was leased to those peasants qualified to receive it under the law. * * * Well informed members of Hungarian agricultural circles believe that the land reform law, if put into operation as intended by the Government, will cause a very large amount of land to go out of production for some years to come.

(See Appendix I for a full discussion of the land reform act by Digby A. Willson, United States Consul at Budapest.)

It is probable, however, that when the financial crisis through which the country is passing has been weathered, the cereal areas will slowly swing back toward normal and that the present territory of Hungary will produce about the same exportable surplus of wheat, rye, and other cereals that it produced before the war. We can not determine absolutely what that surplus was, but we can make an approximation that more or less approaches the actual facts.

PRE-WAR WHEAT BALANCE: OLD KINGDOM OF HUNGARY.

In estimating the exportable surplus of wheat from year to year for the old Kingdom of Hungary, as a whole, an average consumption factor of 292.6 pounds per capita per year was employed. The inhabitants of different districts of old Hungary varied greatly in religion, race, and dietary habits, so that in discussing the surplus or deficit of any particular district, a norm typical of the conditions of consumption of that district must be employed. The manner in which these norms are obtained is discussed on p. 37 and following.

In Table 11, the approximate average surplus or deficit of wheat for each of the land divisions into which the old Hungary was split is given separately:

TABLE 11.—*Average approximate wheat balance in the different districts that comprised the old Hungarian monarchy, 1911–1915.*

District.	Population.	Area sown.	Seed.	Production.	Net production.	Food requirement.	Surplus or deficit.	Per capita consumption per year.
		1,000 acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*Bushels.*
Hungary (1921 boundaries)	7,606,224	3,745	10,640	71,308	60,668	40,462	+20,206	[1] 5.32
Transylvania (ceded to Rumania)	5,191,494	2,324	6,912	36,020	29,108	26,705	+2,403	5.14
Slovakia (ceded to Czechoslovakia)	2,950,802	761	2,264	13,758	11,494	9,758	+1,736	3.31
Ruthenia (ceded to Czechoslovakia)	574,385	106	316	1,320	1,004	1,688	−684	2.94
Burgenland (ceded to Austria)	296,891	126	357	2,513	2,156	1,255	+901	4.23
Croatia Slavonia (ceded to Yugoslavia)	2,621,954	827	2,348	12,787	10,439	12,813	−2,374	4.89
Murji (ceded to Yugoslavia)	183,122	49	138	914	776	774	+2	4.23
Voivodina (ceded to Yugoslavia)	1,411,809	1,329	3,774	24,879	21,105	7,262	+13,843	5.14
Total	20,836,681	9,267	26,749	163,499	136,750	100,717	+36,033	4.83

[1] Includes Budapest. The estimated per capita consumption of the 880,371 inhabitants of Budapest is 6.1 bushels of wheat and 1.34 bushels of rye per year. The rural population is estimated to consume about 5.22 bushels of wheat and about 1.41 bushels of rye.

NOTE.—The populations in Table 11 are the sum of the populations of the counties of each district according to the 1911 census. When a county was divided between Hungary and one of the surrounding countries, the population accredited in Table 11 to the segregated territory is the total population less the population in the portion of the county remaining to Hungary as published in "Statisztikai Havi Kozlemenyek," October-December, 1921. Where counties were divided between Rumania and another country the population of the Rumanian territory as given in "Dictionarul Transilvaniei, Banatului si Celorlalte Tinuturi Alipite," Cluj 1921, is taken as final. These figures differ from those published by Czechoslovakia and Yugoslavia; but only by this procedure can an approximate balance be struck. For further discussion of the wheat and rye consumption norms of Hungary see note on page 37 and following.

Table 11 indicates that more than half of the wheat surplus produced by the old Kingdom of Hungary before the war originated within the confines of present Hungary. More than one-third of the wheat surplus originated in the Voivodina, now a district of Yugoslavia, lying in the valleys of the Danube and the Tisza rivers. These rivers afford cheap water transportation to Austria and Bohemia.

The surpluses of Transylvania, ceded to Rumania, and of Slovakia, ceded to Czechoslovakia, ranged from about 9 to 15 per cent of the net

FIG. 3.—Average production of wheat, 1911–1915, balanced against consumption. The numbers represent thousands of bushels. The amount of the deficit or the exportable surplus of each district is the algebraic sum of the plus and minus numbers within the boundaries of that district. The solid black areas roughly outline the regions in which most of the export wheat originated. The shaded areas outline those regions whose combined surplus was sufficient to cover the local domestic deficits within the frontiers of the old Kingdom of Hungary. These deficit regions are roughly outlined by the unshaded areas. This map accompanies Table 11.

production of each of these districts. These surpluses were commercially significant, but small compared with central Hungary or the Voivodina district.

The actual amount of the surplus of 36,033,000 bushels is statistical and is based upon an average consumption norm of 4.83 bushels per capita per year (compare 4.88 as the average for the period 1909–1913, page 38). During the period 1911–1915 covered by Table 11, the foreign agricultural trade of the old Kingdom of Hungary was as follows:

TABLE 12.—*Foreign trade in wheat, Hungary, average 1911–1915.*

Country.	Imports (+).	Exports (−).	Net.
	Bushels.	*Bushels.*	*Bushels.*
Austria	378,383	39,766,137	−39,387,754
Bosnia	221,243	1,491,206	−1,269,963
France	.....	28,913	−28,913
Germany	26,966	155,443	−128,477
Netherlands	.....	22,909	−22,909
Italy	.....	15,384	−15,384
England	23,865	177,852	−153,987
Rumania	1,794,261	.....	+1,794,261
Serbia	151,992	149,994	+1,998
Bulgaria	110,348	54,788	+55,560
Russia	19,783	.....	+19,783
Montenegro	.....	49,394	−49,394
Brazil	.....	38,242	−38,242
Other countries	897	39,609	−38,712
Total	+2,727,738	−41,989,871	−39,262,133

DESTINATION OF THE EXPORTED WHEAT SURPLUS ORIGINATING WITHIN THE PRESENT BOUNDARIES OF HUNGARY.

Some of the surplus produced in Voivodina and Transylvania was milled locally at the great roller mills of Arad, Temesvar, and Czabadka, and the best grades of flour were exported to Austria, Germany, and England, taking advantage of the long cheap haul by water via the Danube River. However, most of the domestic rail and water transportation was organized to concentrate grain at Budapest, which is Hungary's greatest milling center. It is estimated that the capacity of the mills at Budapest, where the first roller-process mill in the world was installed, is greater than the wheat surplus producing capacity of the territory of present Hungary.

Before the war the western counties of present-day Hungary shipped an average of 1,490,000 bushels of wheat to Bosnia, 2,375,000 bushels to Croatia, and 50,000 bushels to Montenegro. Seven hundred and five thousand bushels of wheat were shipped annually to Ruthenia from adjacent counties in the northeast of present Hungary. These shipments to the southwest and northeast were by rail. About 15,557,000 bushels of wheat (flour and grain) originating within the borders of present Hungary were shipped by rail and water to various districts of the old Kingdom of Austria: Galicia, Bucovina, Bohemia, Dalmatia, and German Austria. In all, approximately 20,206,000 bushels of wheat as grain and flour were shipped out of the territory now comprised within the present boundaries of Hungary.

Statistical wheat balance of Hungary for crop of 1921.

		Acres.
Area sown		2,887,821
		Bushels.
Production		52,715,454
Seed		8,201,803
Net production		44,513,651
Food requirement of—	Bushels.	
Budapest, 925,724×6.10	5,646,916	
Provincial Hungary, 7,020,154×5.22	36,645,204	
		42,292,120
Indicated statistical surplus available for export, based on pre-war consumption norms		2,221,531

ACTUAL WHEAT EXPORTS DURING THE SEASON OF 1921-22.

During the season of 1921–22 Hungary exported wheat and flour (calculated to a grain basis) to the following countries in the amounts indicated:

Wheat exports and imports of Hungary, July 1, 1921 to June 30, 1922.

Exported to:	Bushels.
Austria	5,425,017
Czechoslovakia	2,727,142
Switzerland	122,293
Yugoslavia	37,416
Italy	29,277
Fiume	25,952
Germany	24,133
Other countries	6,753
Total	8,397,983
Imports from Rumania and other countries	5,431
Net exports	8,392,552

From the foregoing data it is evident that Hungary exported 6,171,021 bushels more wheat than the statistical balance, based upon pre-war consumption rates, indicates available for export in 1921. It is probable that the city populations were on much shorter rations during this period than normally before the war and were using substitutes. As indicated by the following paragraph, the Hungarians are eating relatively more rye than before the war, thus proportionately more wheat should be available for export.[1]

PRE-WAR RYE BALANCE OF THE DIFFERENT DISTRICTS OF THE OLD KINGDOM OF HUNGARY.

The following table gives the average production, consumption, and statistical exportable surplus during the period 1911–1915:

TABLE 13.—*Average approximate rye balance in the different districts that comprised the old Kingdom of Hungary, 1911–1915.*

District.	Area sown.	Seed.	Production.	Net production.	Consumption.	Surplus (+) or deficit (−).	Per capita consumption per year.
	1,000 acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*Bushels.*
Hungary (1921 boundaries)	1,676	5,099	30,825	25,726	10,711	+15,015	1.41
Transylvania (ceded to Rumania)	313	952	5,107	4,155	4,088	+67	.79
Slovakia (ceded to Czechoslovakia)	510	1,627	9,074	7,447	6,970	+477	2.36
Ruthenia (ceded to Czechoslovakia)	41	130	556	426	678	−252	1.18
Burgenland (Ceded to Austria)	85	272	1,582	1,310	1,169	+141	3.94
Croatia-Slavonia (ceded to Yugoslavia)	219	665	3,099	2,434	3,716	−1,282	1.42
Murji (ceded to Yugoslavia)	38	121	634	513	505	+8	2.76
Voivodina (ceded to Yugoslavia)	56	170	1,191	1,021	1,112	−91	.79
Total	2,938	9,036	52,068	43,032	28,949	+[a]14,083	1.39

[a] Of this amount 73,669 bushels were used for industrial purposes.

[1] See page 18 for a discussion of the wheat and rye situation in 1922.

It is probable that in former Hungarian territory outside of the present boundaries most of the rye produced was consumed locally. Both Ruthenia and Croatia imported rye in addition to that produced locally; the former balanced its deficit from the northeastern counties of Hungary proper and the latter from the southwestern counties.

The pre-war surplus produced within the present confines of Hungary was about 15,015,000 bushels and the per capita consumption was approximately 1.41 bushels per year. Hungary's foreign trade in rye during this period of 1911–1915 (Table 14) showed

FIG. 4.—Average production of rye, 1911–1915, balanced against consumption. The numbers represent thousands of bushels. The amount of the deficit or the exportable surplus of each district is the algebraic sum of the plus and minus numbers within the boundaries of that district. The solid black areas roughly outline the regions in which most of the export rye originated. The shaded areas outline those regions whose combined surplus was sufficient to cover the local domestic deficits within the frontiers of the old Kingdom of Hungary. These deficit regions are roughly outlined by the unshaded areas. This map accompanies Table 13.

a net export of 10,797,000 bushels, which is 3,286,000 bushels less than the available statistical surplus indicated in Table 13.

TABLE 14.—*Foreign trade in rye, Hungary, average 1911–1915.*

Country.	Imports (+).	Exports (−).	Net.
	Bushels.	*Bushels.*	*Bushels.*
Austria	86,420	10,796,316	−10,709,896
Bosnia		128,843	−128,843
France		5,071	−5,071
Rumania	45,218		+45,218
Other countries	2,527	1,078	+1,449
Total	+134,165	−10,931,308	−10,797,143

Employing the same consumption norm as in the foregoing estimates, we have the following balance in 1921:

Statistical rye balance for crop of 1921.

	Acres.
Area sown	1,340,967
	Bushels.
Production	23,176,594
Seed	4,059,204
Net production	19,117,390
Food requirement: 7,945,878×1.41	11,203,688
Indicated statistical surplus available for export based on pre-war consumption norms	7,913,702

During the period from July 1, 1921 to June 30, 1922, Hungary exported the following:

Exports and imports of rye, Hungary, July 1, 1921 to June 30, 1922.

Exported to:	Bushels.
Austria	2,555,742
Czechoslovakia	718,495
Yugoslavia	20,471
Switzerland	7,822
Other countries	5,307
Total exports	3,307,837
Imported from Rumania and other countries	7,106
Net exports	3,300,731

Thus Hungary had a statistical surplus of 4,612,971 bushels more rye for export from the crop of 1921 than was exported during the period July 1, 1921 to June 30, 1922. This is 75 per cent of the shortage in exportable wheat, so that it is probable that Hungary has been substituting rye for wheat and so entered the 1922–23 crop year with low stocks of bread cereals.

WHEAT AND RYE SITUATION IN 1922.

The production of wheat and rye reported for 1922 was 4,000,000 bushels more than for 1921; with an estimated exportable surplus of about 4,000,000 bushels greater than the preceding season or 14,313,000 as shown in Table 15.

TABLE 15.—*Preliminary wheat and rye balance, Hungary, 1922.*

Cereal.	Area sown.	Production.	Seed.	Net production.	Food requirement.	Deficit or surplus.
	1,000 acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Wheat	2,854	54,711	8,066	46,645	42,152	+4,493
Rye	1,340	25,156	4,053	21,103	11,283	+9,820
Net statistical surplus						+14,313

No report on Hungary's foreign trade in wheat and rye for the year 1922–23 is available at this time.

NOTE.—The consumption norms employed in the above balances are approximately the same as those that have been employed by the Hungarian and Austrian Governments; but these balances as applied to the conditions of any one year must be very broadly interpreted, as brought out in Table 48, page 38.

PROSPECTS FOR 1923.

The International Institute of Agriculture gives a preliminary approximation of Hungary's 1923 production of wheat at 64,705,000 bushels and rye at 30,904,000 bushels. This is an increase of 9,994,000 bushels of wheat and 5,748,000 bushels of rye over the final figures received for the crop of 1922.

CORN (MAIZE).

In the preceding sections when a balance was struck between the production and consumption of such cereals as wheat and rye through the use of the empirical average norm, such an approximate balance was a fairly good estimate. However, when we calculate such a balance between the production and consumption of the fodder grains—corn, barley, and oats—and other crops, the statistical surplus or deficit thus obtained is a far less accurate estimate than in the case of the bread cereals. The number of animals on feed and the average ration fed to each varies more from year to year than does the consumption requirements of the human population.

The Hungarian Ministry of Agriculture has worked out such balances for the old Kingdom of Hungary and the data relative to local production and consumption appearing in the following pages are based upon unpublished statistics that have been furnished to the United States Department of Agriculture by Dr. Ivan Nagy, Councillor of the Hungarian Royal Ministry of Agriculture. In calculating the local consumption in each county the general average norm for the entire Kingdom has been modified so as to give a relatively true picture in the case of each district according to the reports of grain dealers and of local agricultural organizations.

TABLE 16.—*Average approximate corn balance in the different districts that comprised the old Kingdom of Hungary, 1911–1915.*

District.	Area planted.	Production.	Seeds.	Net production.	Corn fed to—			Food requirement of peasants of Rumanian blood.[1]	Total domestic corn requirement.	Surplus or deficit.
					Total number of cattle.	Two-thirds of total number of swine.	One-fourth of total number of sheep.			
	1,000 acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Hungary (1921 boundaries)	2,197	60,800	1,225	59,575	23,671	30,577	4,141	.....	58,389	+1,186
Transylvania (ceded to Rumania)	2,435	53,174	1,358	51,816	22,056	14,463	6,356	10,198	53,073	−1,257
Slovakia (ceded to Czechoslovakia)	212	5,518	118	5,400	3,020	6,893	.....	.....	9,913	−4,513
Ruthenia (ceded to Czechoslovakia)	135	1,931	75	1,856	617	818	333	1,128	2,896	−1,040
Burgenland (ceded to Austria)	42	1,123	24	1,099	1,548	1,160	53	.....	2,761	−1,662
Croatia - Slavonia (ceded to Yugoslavia)	1,057	23,677	590	23,087	12,241	11,151	1,532	.....	24,924	−1,837
Murji (ceded to Yugoslavia)	22	585	12	573	691	589	42	.....	1,322	−749
Voivodina (ceded to Yugoslavia)	1,229	42,599	685	41,914	[2] 8,602	[2] 10,736	[3] 2,202	.....	21,540	+20,374
Total Hungarian Kingdom	7,329	189,407	4,087	185,320	72,446	76,387	14,659	11,326	174,818	+10,502

[1] 110 pounds per capita per year for total population. [3] 14.4 bushels per head per year.
[2] 3.4 pounds per head per day.

In Table 16 it is assumed that on the average the cattle of Hungary consumed yearly about 10.8 bushels of corn per head except in Slovakia and Ruthenia, where cattle and sheep are fed barley in lieu of corn, and Voivodina, where more corn is fed than in other districts. The ration fed to swine was reckoned at about 14.4 bushels per head per year (about 2.2 pounds per day) and presumes that two-thirds of the swine in the country are permanently on feed except in Voivodina where larger amounts of corn are fed swine and sheep. Sheep are reckoned to eat 7.2 bushels of corn per head per year, assuming that one-fourth of the sheep of the country are continuously on grain feed.

FIG. 5.—Average production of corn, 1911–1915, balanced against consumption. The numbers represent thousands of bushels. The amount of the deficit or the exportable surplus of each district is the algebraic sum of the plus and minus numbers within the boundaries of that district. The solid black areas roughly outline the regions in which most of the export corn originated. The shaded areas outline those regions whose combined surplus was sufficient to cover the local domestic deficits within the frontiers of the old Kingdom of Hungary. These deficit regions are roughly outlined by the unshaded areas. This map accompanies Table 16.

It is probable that less corn was fed to livestock in Slovakia and that more was fed in Voivodina than the calculated amounts given above would indicate. That is to say, in Slovakia barley is a more usual hog feed than corn. These are the best figures available, and although only rough approximations, they are given for what they are worth. The same holds true in the balances for barley, oats, beets and potatoes.

In the districts other than Slovakia and Voivodina the surpluses and deficits are probably fair approximations of the facts. In addition to the above amounts of corn fed to livestock, about 5,151,000 bushels were used for industrial purposes. Thus we have a total of 5,351,000 bushels of corn as the average statistical net surplus during the period 1911–1915. During this period the actual foreign trade of Hungary in corn was as follows:

TABLE 17.—*Foreign trade in corn, Hungary, average 1911–1915.*

Country.	Imports (+).	Exports (−).	Net.
	Bushels.	*Bushels.*	*Bushels.*
Argentina	466,111		+466,111
Austria	164,873	11,073,288	−10,908,415
Bosnia	208,075	862,195	−654,120
Bulgaria	376,337		+376,337
European Turkey	32,711		+32,711
Germany		142,079	−142,079
Italy		7,960	−7,960
Montenegro		14,995	−14,995
Rumania	3,710,023		+3,710,023
Russia	53,367		+53,367
Serbia	150,066		+150,066
Other countries	1,764	9,271	−7,507
Total	+5,163,327	−12,109,788	−6,946,461

Comparing the total net export of 6,946,000 bushels with the total net statistical surplus of 5,351,000 bushels a margin of difference of 1,595,000 bushels is obtained.

CORN SITUATION IN HUNGARY, 1921-1922.

Before the war (1911–1915) the statistical surplus produced within the 1921 boundaries of Hungary was about 1,186,000 bushels.

The statistical corn surpluses produced in the years 1921, 1922, and in the same area in 1911–1915 are compared in the following statement:

TABLE 18.—*Statistical corn balance, Hungary, 1921-22, compared with pre-war, 1911–1915.*

	1911–1915	1921	1922
	1,000 acres.	*1,000 acres.*	*1,000 acres.*
Area planted	2,197	2,167	1,716
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*
Total production	60,800	31,702	32,493
Seed requirement	1,225	1,208	956
Net production	59,575	30,494	31,537
Total domestic consumption	58,389	[1] 30,259	[1] 30,259
Statistical surplus	1,186	235	1,278

[1] Consumption is as reported by Hungarian Department of Agriculture in 1921. Feed for stock, 29,133,246 bushels; used industrially, 1,125,921 bushels.

The actual import-export balance for the crop year 1921–22 was:

Exported from the crop of 1921 to—		Bushels.
Austria		104,293
Czechoslovakia		38,604
Germany		41,210
Other countries		201
Total exports		184,308
Imported from—	Bushels.	
Rumania	31,774	
Yugoslavia	26,376	
Total imports		58,150
Net exports		126,158

The net exports of corn in 1921 was 126,158 bushels, or about half of the statistically indicated surplus. The surplus indicated for 1922 is five times as large as that of the preceding year, but the amount employed as the average requirement fed to stock in 1922 is the same as was calculated for 1921, and does not take into account the possible increases in livestock during the period July 1, 1922 to June 30, 1923. It is well to note that the amount of corn fed to livestock in 1921 was very much below the pre-war average.

Corn fed to livestock within the present boundaries of Hungary in	Bushels.
1911–1915	58,389,000
Estimated quantity fed in 1921	29,133,246
Difference due probably to fewer animals on feed	29,255,754

The area under corn in 1921 was nearly equal to that of 1911–1915, but in 1922 there was a decrease of 21 per cent over the previous year. This falling off was counterbalanced by an increase in yield. But even though the indicated statistical surplus of 1,278,000 bushels in 1922 is more than the pre-war average of 1,186,000 bushels (see Table 16), it is no indication that the corn balance has reached normal. It is reported that the number of animals on feed has been increased, and the most recent consular report from Budapest states that the peasants are marketing their cattle on account of insufficient fodder and forage. The tendency has been to hold too many animals on feed.

PRE-WAR BARLEY BALANCE OF THE DIFFERENT DISTRICTS OF OLD KINGDOM OF HUNGARY.

Table 19, giving the average production, consumption, and surplus or deficit balance for barley for the period of 1911–1915, is based upon the amounts of barley fed to swine in all districts except Voivodina, where corn is used for feeding livestock.

TABLE 19.—*Average approximate barley balance in the different districts that comprised the old Kingdom of Hungary, 1911–1915.*

District.	Area.	Production.	Seed.	Net production.	Barley fed to one-third of swine.	Surplus (+) or deficit (−).
	1,000 acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Hungary (1921 boundaries)	1,288	31,892	3,734	28,158	17,836	+10,322
Transylvania (ceded to Rumania)	341	7,596	988	6,608	8,437	−1,829
Slovakia (ceded to Czechoslovakia)	931	23,842	2,700	21,142	16,083	+5,059
Ruthenia (ceded to Czechoslovakia)	15	394	43	351	734	−383
Burgenland (ceded to Austria)	80	2,276	233	2,043	677	+1,366
Croatia-Slavonia (ceded to Yugoslavia)	156	2,355	452	1,903	1,903	(1)
Murji (ceded to Yugoslavia)	14	338	40	298	344	−46
Voivodina (ceded to Yugoslavia)	115	3,087	334	2,753	.....	+2,753
Total	2,940	71,780	8,524	63,256	46,014	+17,242

[1] Total production used industrially or fed within the district.

It is assumed that 16.72 bushels of barley per head per year for one-third the total number of swine is consumed in the country, except in Slovakia where barley is fed to all classes of livestock in lieu of corn. In Croatia-Slavonia and Voivodina little or no barley is fed

to cattle, swine, or sheep, which receive a ration of corn in addition to hay or pasturage.

In addition to the barley fed to livestock, it is estimated that 5,726,000 bushels were used yearly for industrial purposes. Thus we have a total of 11,516,000 bushels of barley as the average statistical net surplus during the period 1911–1915.

During the period 1911–1915, Hungary's actual foreign trade in barley was as follows:

FIG. 6.—Average production of barley, 1911–1915, balanced against consumption. The numbers represent thousands of bushels. The amount of the deficit or the exportable surplus of each district is the algebraic sum of the plus and minus numbers within the boundaries of that district. The solid black areas roughly outline the regions in which most of the export barley originated. The shaded areas outline those regions whose combined surplus was sufficient to cover the local domestic deficits within the frontiers of the old Kingdom of Hungary. These deficit regions are roughly outlined by the unshaded areas. This map accompanies Table 18.

TABLE 20.—*Foreign trade in barley, Hungary, average 1911–1915.*

Country.	Imports (+).	Exports (−).	Net.
	Bushels.	*Bushels.*	*Bushels.*
Austria	342,512	9,227,555	−8,885,043
Bosnia		166,406	−166,406
Bulgaria	59,694		+59,694
Brazil		21,660	−21,660
England		272,052	−272,052
France		24,058	−24,058
Germany		1,393,955	−1,393,955
Netherlands		82,457	−82,457
Italy		122,769	−122,769
Rumania	135,794	30,051	+105,743
Serbia	33,436	39,288	−5,852
Switzerland		181,498	−181,498
Other countries	2,884	79,568	−76,684
Total	+574,320	−11,641,317	−11,066,997

The best brewing barley was produced in the northern provinces, Pozsony, Nyitra, Bars, and Hont, about one-third of Hungary's export barley coming from this region. Some of the barley grown

in Voivodina and Burgenland also entered into foreign trade. The surplus produced within the present confines of Hungary entered into domestic trade with Transylvania and was exported to Austria.

THE BARLEY SITUATION IN HUNGARY, 1921-22.

Before the war (1911–1915) the statistical surplus produced within the present (1921) frontiers of Hungary was about 10,000,000 bushels. The statistical surpluses produced in the years 1921, 1922, and for the corresponding area in 1911–1915 are compared in Table 21:

TABLE 21.—*Hungary: Statistical barley balance 1921–22, compared with pre-war, 1911–1915.*

	1911–1915	1921	1922
	1,000 acres.	*1,000 acres.*	*1,000 acres.*
Area seeded	1,288	1,184	1,129
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*
Total production	31,892	21,408	20,876
Seed requirement	3,734	3,434	3,274
Net production	28,158	17,974	17,602
Total domestic consumption	17,836	[1] 16,082	[1] 16,082
Statistical surplus	10,322	1,892	1,520

[1] Feed for stock, 14,824,000 bushels; used industrially, 1,258,000 bushels.

The actual net import-export balance for 1921 was:

Net export to:	Bushels.
Austria	591,710
Czechoslovakia	23,566
France	34,153
Germany	66,776
Italy	156,545
Poland	12,438
Yugoslavia	86,861
Switzerland	13,026
Other countries	23,084
Total	1,008,159

The net exports of barley in 1921 was about 1,000,000 bushels or about two-thirds of the statistical surplus. The surplus indicated for 1922 is a little less than for 1921 and only one-seventh of the pre-war average surplus within the 1921 boundaries of Hungary.

PRE-WAR OATS BALANCE OF THE DIFFERENT DISTRICTS OF THE OLD KINGDOM OF HUNGARY.

Table 22 of production balanced against consumption of oats (assumed to be fed to horses except as noted) shows the approximate average surplus or deficit by districts for the period 1911–1915.

TABLE 22.—*Average approximate oats balance in the different districts that comprised the old Kingdom of Hungary, 1911–1915.*

District.	Area.	Production.	Seed.	Net production.	Oats fed to horses and other livestock.	Surplus (+) or deficit (−).
	1,000 acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Hungary (1921 boundaries)	862	29,863	3,751	26,112	22,272	+3,840
Transylvania (ceded to Rumania)	770	22,622	3,347	19,275	16,845	+2,430
Slovakia (ceded to Czechoslovakia)	552	15,407	2,400	13,007	11,426	+1,581
Ruthenia (ceded to Czechoslovakia)	96	1,987	417	1,570	1,311	+259
Burgenland (ceded to Austria)	50	1,940	220	1,720	804	+916
Croatia-Slavonia (ceded to Yugoslavia)	257	5,359	1,117	4,242	4,376	−134
Murji (ceded to Yugoslavia)	16	578	71	507	332	+175
Voivodina (ceded to Yugoslavia)	362	14,328	1,573	12,755	10,555	+2,200
Total	2,965	92,084	12,896	79,188	67,921	+11,267

FIG. 7.—Average production of oats, 1911–1915, balanced against consumption. The numbers represent thousands of bushels. The amount of the deficit or the exportable surplus of each district is the algebraic sum of the plus and minus numbers within the boundaries of that district. The solid black areas roughly outline the regions in which most of the export oats originated. The shaded areas outline those regions whose combined surplus was sufficient to cover the local domestic deficits within the frontiers of the old Kingdom of Hungary. These deficit regions are roughly outlined by the unshaded areas. This map accompanies Table 22.

In estimating oats consumption for horses the Hungarian Government employed the norm of 2.2 pounds per day per head except in Slovakia where oats were fed to other animals.

It is evident that in oats-deficit districts, as Croatia-Slavonia and the Banat, that oats are fed only to horses and that corn and barley are used as substitutes for oats as horse feed to as great an extent as possible. Also it is probable that in oats-excess producing districts the locally produced oats are fed to animals other than horses rather than corn and barley should be imported as stock feed from other districts. For example, the Rumanian Government estimates that the consumption of oats in Transylvania is about 105 pounds per capita of population per year; this would be equivalent to 33 bushels

per head of horses per year, or a total of 16,845,000 bushels for the district. Employing the Hungarian norm of 2.2 pounds per head per day, which is the average for the old Kingdom as a whole, gives a total oats consumption of 6,439,000 bushels for the district of Transylvania, which is obviously too low, since before the war Transylvania imported oats from the old Kingdom of Rumania (see Table 23). In striking the oats balance in Table 23 it has been assumed that the average amount of oats fed annually to stock in the territory now comprised within the boundaries of Hungary was 25.2 bushels per head, the norm now used by the Hungarian Government, (number of horses as in Table 45), but in other parts of Hungary 33 bushels as estimated for Transylvania by the Rumanian Government, except in Voivodina where the norm used is 36.5; in Slovakia it is 47, and in Croatia-Slavonia it is 12.5 bushels. Even this consumption per head is somewhat low, as will be seen by comparing the statistical surplus indicated in Table 23 with the actual average exports during the 5-year period 1911–1915.

During this period the actual foreign trade in oats was as follows:

TABLE 23.—*Foreign trade in oats, Hungary, average 1911–1915.*

Country.	Imports (+).	Exports (−).	Net.
	Bushels.	*Bushels.*	*Bushels.*
Argentina	13,166		+13,166
Austria	317,332	8,688,832	−8,371,500
Bosnia	524,495	238,248	+286,247
Bulgaria	5,050	13,372	−8,322
European Turkey	15,350		+15,350
Germany	16,858		+16,858
Italy		12,559	−12,559
Rumania	273,329		+273,329
Russia	14,585		+14,585
Serbia	55,377	36,569	+18,808
Other countries	152	18,202	−18,050
Total	1,235,694	9,007,782	−7,772,088

Comparing the statistical average surplus with the actual average net exports we have:

	1,000 bushels.
Statistical average surplus 1911–1915	11,267
Average net export 1911–1915	7,772
Difference	3,495

Oats were grown everywhere in the old Kingdom of Hungary. In only four regions, however, were they produced in sufficient quantity and of sufficiently high quality to be recognized by distinct trade names abroad. These districts were:

Batchka (now, in part, a district of Voivodina).—The acreage seeded to oats in Batchka was very great, fully twice that of all Croatia-Slavonia.

The west Danube counties.

Upper Hungary, now Slovakia. Oats from this district were considered inferior to those from the other regions.

The uplands of Transylvania called "Seven-Mountains." The oats from this district entered largely into domestic trade under the name of "Sebenberger."

OATS SITUATION IN THE REPUBLIC OF HUNGARY, 1921–22.

The statistical surplus of oats during the years 1921 and 1922 with the corresponding figures for 1911–1915, are shown in Table 24:

TABLE 24.—*Statistical oats balance of Hungary, 1921–22, compared with pre-war, 1911–1915.*

	1911–1915	1921	1922
Area seeded	*1,000 acres.* 862	*1,000 acres.* 885	*1,000 acres.* 818
Total production	*1,000 bushels.* 29,863	*1,000 bushels.* 21,964	*1,000 bushels.* 22,268
Seed requirement	3,751	3,849	3,558
Net production	26,112	18,115	18,710
Feed for stock	22,272	17,234	17,234
Statistical surplus	3,840	881	1,476

The actual net import-export balance for the season of 1921–22 was as follows:

	Bushels.
Exported to:	
Austria	604,701
Czechoslovakia	35,019
Switzerland	1,378
Other countries	1,798
Total exports	642,896
Imported from:	
Germany	5,560
Other countries	248
Total imports	5,808
Net exports	637,088

It is probable that the number of animals on feed have been materially increased during the past year so that the above surplus from the 1922 crop, which is based upon the same consumption rate as 1921, will probably be less than indicated and the export up to July, 1923, will not vary much from that of the preceding crop year.

PRE-WAR POTATO BALANCE OF THE DIFFERENT DISTRICTS OF THE OLD KINGDOM OF HUNGARY.

Table 25 shows the balance of production against consumption of potatoes for human food during the 5-year average 1911–1915.

TABLE 25.—*Average approximate potato balance: In the different districts that comprised the old Kingdom of Hungary, 1911–1915.*

District.	Area.	Production.	Seed.	Net production.	Required for home consumption.	Surplus (+) or deficit (−).
	1,000 Acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Hungary (1921 boundaries)	621	72,726	16,053	56,673	55,014	+1,659
Transylvania (ceded to Rumania)	195	21,401	5,043	16,358	37,428	−21,070
Slovakia (ceded to Czechoslovakia)	572	76,292	14,780	61,512	21,808	+39,704
Ruthenia (ceded to Czechoslovakia)	73	6,763	1,886	4,877	4,292	+585
Burgenland (ceded to Austria)	35	4,540	893	3,647	2,177	+1,470
Croatia-Slavonia (ceded to Yugoslavia)	199	19,769	5,139	14,630	18,979	−4,349
Murji (ceded to Yugoslavia)	13	1,564	349	1,215	978	+237
Voivodina (ceded to Yugoslavia)	49	6,254	1,254	5,000	10,149	−5,149
Total	1,757	209,309	45,397	163,912	150,825	+13,087

The Hungarian Ministry of Agriculture estimates that the average yearly consumption of potatoes as food throughout the old Kingdom was about 7.3 bushels per capita, or 150,800,000 bushels. In addition, 10,100,000 bushels were used for industrial purposes—starch, alcohol, etc. This left a statistical surplus of about 2,985,000 bushels that was available for shipment abroad, the greater part being exported to Austria.

From Table 26 it will be seen that the actual net potato exports during this 5-year period, 1911–1915, amounted to 3,161,000 bushels.

During this pre-war period the actual foreign trade in potatoes was as shown in Table 26.

TABLE 26.—*Foreign trade in potatoes, Hungary, average 1911–1915.*

Country.	Imports (+).	Exports (−).	Net.
	Bushels.	*Bushels.*	*Bushels.*
Austria	225,226	3,031,237	−2,806,011
Bosnia		114,808	−114,808
England	3,887		+3,887
France		45,907	−45,907
Germany	151,629	261,583	−109,954
Greece	2,660		+2,660
Italy	58,697	23,762	+34,935
Rumania		35,983	−35,983
Russia	13,558	24,600	−11,042
Serbia		20,936	−20,936
Tunis		6,684	−6,684
Other countries	3,689	54,435	−50,746
Total	459,346	3,619,935	−3,160,589

POTATO SITUATION, 1921–1922.

The statistical surpluses produced during the years 1921–1922 and for the corresponding area in 1911–1915 are compared in Table 27:

TABLE 27.—*Statistical potato balance of Hungary, 1921–1922, compared with pre-war, 1911–1915.*

	1911–1915	1921	1922
	1,000 acres.	*1,000 acres.*	*1,000 acres.*
Area seeded	621	665	447
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*
Total production	72,726	45,898	33,859
Seed requirement	16,053	17,175	11,550
Net production	56,673	28,723	22,309
Domestic consumption	55,014	[1] 25,100	[2] 21,021
Statistical surplus	1,659	3,623	1,288

[1] Food and stock feed, 21,021,000 bushels. Industrial uses, 4,079,000 bushels.
[2] No allowance made for potatoes used industrially in 1922.

The actual net import-export balance for the season of 1921–1922 was as follows:

	Bushels.
Exported to:	
Austria	160,903
Switzerland	5,879
Czechoslovakia	1,143
Total exports	167,925
Imported from:	
Italy	20,540
Germany	709
Total imports	21,249
Net exports	146,676

SUGAR BEETS.

TABLE 28.—*Average balance between production and factory run of sugar beets in the different districts that comprised the old Kingdom of Hungary, 1911–1915.*

District.	Area.	Production.	Seed.	Net production.	Sugar beets worked up by factories.	Surplus (+) or deficit (−).
	Acres.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Hungary (1921 boundaries)	145,515	1,598,282	1,813	1,596,469	1,364,576	+231,893
Transylvania (ceded to Rumania)	32,809	366,790	410	366,380	200,613	+165,767
Slovakia (ceded to Czechoslovakia)	165,226	1,693,094	2,066	1,691,028	1,593,375	+97,653
Ruthenia (ceded to Czechoslovakia)	467	3,012	8	3,004	.....	+3,004
Burgenland (ceded to Austria)	18,846	227,984	236	227,748	229,196	−1,448
Croatia-Slavonia (ceded to Yugoslavia)	11,811	88,768	147	88,621	110,995	−22,374
Murji (ceded to Yugoslavia)	1,488	16,791	20	16,771	.....	+16,771
Voivodina (ceded to Yugoslavia)	24,013	295,751	300	295,451	154,712	+140,739
Total Hungarian Kingdom	400,175	4,290,472	5,000	4,285,472	3,653,467	632,005

The former frontier between old Hungary and old Austria was no barrier against the farmers of one country producing beets for factories located in the other. About 56,000 tons of beets were sent annually by Austrian farmers to Hungarian sugar factories near which they were located, while Hungarian farmers sent about 189,000 tons to Austrian sugar factories because they were nearer to these than to factories on Hungarian territory. About 7,000 tons were shipped annually to Bosnia and 133,000 tons were used industrially for purposes other than sugar manufacture, and some beets were fed to livestock.

When the present (1921) frontiers of Hungary were finally determined these frontiers did not follow old state or county lines but cut across bordering counties and towns irregularly. In some cases a farmer found himself living in one country and his fields located in another. The railroads were also uneconomically cut up. It is probable that the beet-sugar industry has been injured. Factories are cut off from their former sources of supply and farmers find a customs barrier between themselves and their former market.

It is too early to judge the extent of the effect that these changes of frontiers will have upon the beet-sugar industry. However, the post-war situation in Hungary is indicated in Table 29.

TABLE 29.—*Production of sugar beets in Hungary, average 1911–1915 and 1921.*

	Area.	Production.	Seed.	Net production.	Yield per acre.
	Acres.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Average, 1911–1915	145,515	1,598,282	1,813	1,596,469	10.98
1921	102,917	598,488	1,286	597,202	5.82
Difference	42,598	999,794			5.16
Per cent of decrease compared with pre-war	29.3	62.6			47.0

Comparing 1921 with the pre-war period there has been a drop of 29.3 per cent in acreage due, for the most part, to the general economic situation. The great reduction of 62.6 per cent in production is due largely to climatic and other factors. There is no record of the factory run in 1921.

SUGAR BEET SITUATION IN HUNGARY, 1922.

In 1922 the acreage under sugar beets dropped from 102,917 to 64,303; but the yield increased from 5.82 to about 9.2 short tons per acre. This brought the total yield up to 589,274 short tons, or about what it was the previous year.

FODDER BEETS IN HUNGARY.

The average consumption of fodder beets per head of livestock has been calculated for the old Kingdom of Hungary as a whole; but it is improbable that any great amount of these beets entered into domestic or foreign trade. For the most part they were fed locally, the number of livestock fed varying with the supply of beets. A relatively small amount of beets were used industrially, averaging about 237,000 tons per year, and about 10,000 tons were exported each year. However, most of the product did not leave the farm upon which it was grown.

TABLE 30.—*Average balance between production and estimated consumption of fodder beets in different districts that comprised the old Kingdom of Hungary, 1911–1915.*

District.	Area.	Production.	Seed.	Net production or estimated consumption.
	Acres.	*Short tons.*	*Short tons.*	*Short tons.*
Hungary (1921 boundaries)	286,735	3,915,302	3,071	3,912,231
Transylvania (ceded to Rumania)	76,468	1,082,891	822	1,082,069
Slovakia (ceded to Czechoslovakia)	77,737	985,412	834	984,578
Ruthenia (ceded to Czechoslovakia)	5,426	53,956	60	53,896
Burgenland (ceded to Austria)	17,685	251,599	190	251,409
Croatia–Slavonia (ceded to Yugoslavia)	19,370	116,921	206	116,715
Murji (ceded to Yugoslavia)	4,571	62,082	49	62,033
Voivodina (ceded to Yugoslavia)	18,918	316,577	202	316,375
Total	506,910	6,784,740	5,434	6,779,306

In 1921 there was an increase over the pre-war (1911–1915) average acreage under fodder beets amounting to about 12.2 per cent. The total yield of fodder beets in 1921, due to a decrease of 54.7 per cent in yield per acre, was 48.8 per cent below the 1911–1915 average, as shown in Table 31:

TABLE 31.—*Fodder-beet production in Hungary in 1921 as compared with pre-war, 1911–1915.*

	Area.	Production.	Production per acre.
	Acres.	*Short tons.*	*Short tons.*
Average 1911–15	286,735	3,915,302	13.7
1921	321,721	2,005,231	6.2
Increase (+) or decrease (−)	+34,986	−1,910,071	−7.5
Per cent of increase (+) or decrease (−) compared with pre-war	+12.2	−48.8	−54.7

There is no available information relative to the crop of 1922.

ANIMAL INDUSTRY IN HUNGARY.

Before the war animal industry centered about sheep, swine, cattle, and horses, in the order named, if we base the importance of each on the number of animals per each 1,000 inhabitants.

TABLE 32.—*Live animals in the old Kingdom of Hungary.*

	Total number, 1911.	Per 1,000 inhabitants.
Sheep	8,548,172	410
Swine	7,579,833	364
Cattle	7,318,776	351
Horses	2,350,780	113

Since the various districts of the old Kingdom of Hungary were inhabited by peoples of diverse racial characteristics and with different agricultural customs, and since, due to soil and climatic variations, the nature of the field crops grown also varied, it is not surprising that the kinds and breeds of livestock produced in different regions should also differ.

Sheep herding was the leading animal industry in Transylvania; horses and swine were relatively more important in the territory of Hungary proper and in eastern Croatia-Slavonia and Voivodina, the corn belt of old Hungary, while the leading districts for cattle were Ruthenia, Burgenland, and Croatia-Slavonia. The distribution of livestock throughout the old Kingdom of Hungary is shown in Table 33.

TABLE 33.—*Classification of livestock in different districts that comprised the old Kingdom of Hungary, 1911.*

District.	Number of cattle.	Per 1,000 inhabitants.	Number of horses.	Per 1,000 inhabitants.	Number of swine.	Per 1,000 inhabitants.	Number of sheep.	Per 1,000 inhabitants.	Rank of districts in relative importance of livestock holdings.			
									Cattle.	Horses.	Swine.	Sheep.
	1,000.		*1,000.*		*1,000.*		*1,000.*					
Hungary (1921 boundaries)	2,194	288	884	116	3,192	420	2,299	302	7	3	3	6
Transylvania (ceded to Rumania)	2,045	394	511	98	1,510	291	3,529	680	4	4	6	1
Slovakia (ceded to Czechoslovakia)	1,120	380	243	82	720	244	1,021	346	5	5	7	3
Ruthenia (ceded to Czechoslovakia)	229	399	40	70	85	148	185	322	3	7	8	5
Burgenland (ceded to Austria)	144	485	24	81	121	408	29	98	1	6	4	8
Croatia-Slavonia (ceded to Yugoslavia)	1,135	433	350	133	1,164	444	851	325	2	2	2	4
Murji (ceded to Yugoslavia)	64	349	10	55	61	333	23	126	6	8	5	7
Voivodina (ceded to Yugoslavia)	388	275	289	205	727	515	611	433	8	1	1	2
Total	7,319	351	2,351	113	7,580	364	8,518	410				

CATTLE IN HUNGARY.

The number of cattle of different classes that were found in the old Kingdom of Hungary are given in Table 34:

TABLE 34.—*Classification and number of cattle* [1] *in different districts that comprised the old Kingdom of Hungary, 1911.*

District.	Bulls.	Cows.	Oxen.	Heifers.	Calves.	Total.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*	*Number.*
Hungary (1921 boundaries)	78,615	920,842	672,484	410,502	112,031	2,194,474
Transylvania (ceded to Rumania)	37,753	850,993	687,294	291,417	177,228	2,044,685
Slovakia (ceded to Czechoslovakia)	23,308	526,790	302,651	200,635	66,711	1,120,095
Ruthenia (ceded to Czechoslovakia)	2,592	100,840	68,925	36,118	20,508	228,983
Burgenland (ceded to Austria)	5,975	64,953	36,814	29,823	5,947	143,512
Croatia-Slavonia (ceded to Yugoslavia)	27,170	512,221	294,001	196,366	105,099	1,134,857
Murji (ceded to Yugoslavia)	3,363	29,299	15,475	12,751	3,187	64,075
Voivodina (ceded to Yugoslavia)	14,471	173,661	97,645	84,207	18,111	388,095
Total	193,247	3,179,599	2,175,289	1,261,819	508,822	7,318,776

[1] Not including buffaloes.

The red mottled cattle of the Triburg type are the most prevalent although the Grey Swiss and Simmenthal types are also well established. These improved breeds have in recent years been crowding out the native Hungarian breed, which, although making excellent yoke oxen, admitting of no comparison with the others, develop slowly, are difficult to fatten and yield relatively little first-class meat. East of the Danube are found large numbers of buffaloes in increasing ratio until in Transylvania among the primitive Rumanian peasantry they form 6.78 per cent of the horned cattle. Of the cattle in the old Kingdom of Hungary, 56.5 per cent were of the Swiss breeds.

TABLE 35.—*Breeds and number of cattle and buffaloes in the different districts that comprised the old Kingdom of Hungary, 1911.*

Districts.	Breed and per cent of total cattle, including buffaloes.								
	Hungarian.		Swiss.		Buffaloes.		Other cattle.		Total.
	Number.	*Per Cent.*	*Number.*	*Per Cent.*	*Number.*	*Per Cent.*	*Number.*	*Per Cent.*	*Number.*
Hungary (1921 boundaries)	619,288	28.1	1,395,398	63.2	12,374	0.6	179,788	8.1	2,206,848
Transylvania (ceded to Rumania)	942,648	43.2	823,606	37.7	138,870	6.4	278,431	12.7	2,183,555
Slovakia (ceded to Czechoslovakia)	84,068	7.5	941,910	84.0	737	.1	94,117	8.4	1,120,832
Ruthenia (ceded to Czechoslovakia)	67,453	29.3	36,851	16.0	1,418	.6	124,679	54.1	230,401
Burgenland (ceded to Austria)	4,787	3.3	130,934	91.0	337	.3	7,791	5.4	143,849
Croatia-Slavonia (ceded to Yugoslavia)	162,085	14.3	628,143	55.3	195	(1)	344,629	30.4	1,135,052
Murji (ceded to Yugoslavia)	2,334	3.6	59,611	92.9	101	.2	2,130	3.3	64,176
Voivodina (ceded to Yugoslavia)	152,343	39.1	203,030	52.1	1,356	.4	32,722	8.4	389,451
Total	2,035,006	27.2	4,219,483	56.5	155,388	2.1	1,064,287	14.2	7,474,164

[1] Less than 0.05 of 1 per cent.

With the improvement of meadow land, the cultivation of upland pastures, and the increased seeding of forage crops, animal industry was increasing very rapidly before the war. During the war period the herds were greatly depleted.

The number of cattle within the 1921 boundaries of Hungary in 1920 as compared with 1911 is shown in table 36:

TABLE 36.—*Classification and number of cattle in Hungary (1921 boundaries) in 1920 as compared with 1911.*

Cattle.	1911	1920
Bulls	78,615	100,907
Cows	920,842	849,946
Heifers and oxen	1,082,986	989,663
Calves	112,031	.....
Total	2,194,474	1,940,516
Difference	.....	253,958
Per cent of difference	.....	11.6

In 1920 there were 11.6 per cent fewer cattle in Hungary than in the same territory in 1911; while the decrease in cereal acreage below pre-war (1911–1915) was 15.8 per cent in 1920, 13.3 per cent in 1921, and 19.6 per cent in 1922. While there has been some increase in the production of forage, there has not been in Hungary an increase in pastures and meadows (see Table 3) such as we find in all other countries of southeastern Europe. A report under date of April 5, 1923, of United States Consul Edwin C. Kemp from Budapest states:

> A shortage of forage for stock is reported to be of sufficient importance to move the Minister of Agriculture to occupy himself with the increase of pasture land in connection with the agrarian reform. Many farmers are reported to have sold their stock to butchers, retaining only such as are necessary for the spring cultivation.

This indicates that the increase of cattle during 1921 was in excess of forage production possibilities and that the upper limit was approached if not reached in 1922–23. Actual numbers are not available.

The pre-war foreign trade in cattle of the old Hungarian Kingdom is shown in Table 37:

TABLE 37.—*Foreign trade in cattle, Hungary, average 1911–1915.*

Country.	Imports +.	Exports −.	Net.
Austria	19,012	275,460	−256,448
Bosnia	2,838	4,786	−1,948
Denmark	3,943	.....	+3,943
Germany	835	11,844	−11,009
Netherlands	1,554	.....	+1,554
Rumania	5,164	166	+4,998
Sweden	120	.....	+120
Switzerland	886	214	+672
Other countries	137	131	+6
Total	34,489	292,601	−258,112

From a total of 7,318,776 head of cattle, as shown by the census of 1911, the average net export during the 5-year period 1911–1915 was 258,112, or 3.5 per cent.

TABLE 38.—*Foreign trade in cattle, Hungary, 1921.*

Country.	Imports +.	Exports −.	Net.
Austria		22,197	−22,197
Czechoslovakia	139		+139
Germany		5,848	−5,848
Netherlands		1,077	−1,077
Rumania	17,835		+17,835
Switzerland	156	1,075	−919
Other countries	4	6,573	−6,569
Total	18,134	36,770	−18,636

SWINE IN HUNGARY.

Of the swine in the old Kingdom of Hungary over 80 per cent were of a type peculiar to Hungary, called "Mangalica," a breed which has wool-like bristles and yields lard and fat bacon. In recent years before the war the Hungarian Government had imported large numbers of Yorkshires and factories were established "concerned in the working-up of the flesh of porkers and with the placing upon the market of the finer streaky bacon so widely consumed in England."

The improved English breeds even before the war had become popular in Slovakia, Burgenland, Murji, and Croatia-Slavonia; but in most of the old Kingdom the native Hungarian type of swine prevailed, as indicated in Table 39:

TABLE 39.—*Classification and number of swine in the different districts that comprised the old Kingdom of Hungary, 1911.*

District.	Total swine.	Bacon type.[1]		Other types.	
	Number.	*Number.*	*Per cent.*	*Number.*	*Per cent.*
Hungary (1921 boundaries)	3,191,868	2,878,322	90.2	313,546	9.8
Transylvania (ceded to Rumania)	1,509,821	1,265,222	83.8	244,599	16.2
Slovakia (ceded to Czechoslovakia)	719,528	443,121	61.6	276,407	38.4
Ruthenia (ceded to Czechoslovakia)	85,339	79,278	92.9	6,061	7.1
Burgenland (ceded to Austria)	121,154	72,919	60.2	48,235	39.8
Croatia-Slavonia (ceded to Yugoslavia)	1,164,022	623,237	53.5	540,785	46.5
Murji (ceded to Yugoslavia)	61,524	41,271	67.1	20,253	32.9
Voivodina (ceded to Yugoslavia)	726,577	687,653	94.6	38,924	5.4
Total	7,579,833	6,091,023	80.4	1,488,810	19.6

[1] Mangalica type of fat hog.

Most of old Hungary's pork surplus was shipped to Austria, including Bohemia, Moravia, Silesia, and Galicia. The detailed foreign trade in swine is shown in Table 40.

TABLE 40.—*Foreign trade in swine, Hungary, average 1911–1915.*

Country.	Imports +.	Exports −.	Net.
	Number.	*Number.*	*Number.*
Austria	8,171	612,548	−604,377
Bosnia	643	308	+335
Germany	275		+275
Italy		49	−49
Rumania	572	38	+534
Other countries	42	26	+16
Total	9,703	612,969	−603,266

SWINE SITUATION IN 1921.

According to the census of 1920 there were 2,652,744 swine in Hungary as compared with 3,191,868 within the same territory in 1911, a decrease of 16.9 per cent. In 1921 there was a net import of swine into Hungary, mostly from Rumania as indicated in Table 41:

TABLE 41.—*Foreign trade in swine, Hungary, 1921.*

Country.	Imports +.	Exports −.	Net.
	Number.	*Number.*	*Number.*
Austria		9,751	−9,751
Germany		730	−730
Rumania	16,295		+16,295
Other countries		89	−89
Total	16,295	10,570	+5,725

It is probable that cheap pigs from Transylvania are beginning to penetrate eastern Hungary.

SHEEP IN HUNGARY.

The fine wool sheep, Merinos, are found for the most part on the Hungarian plains, chiefly on the large estates in the districts that are now known as present Hungary, Burgenland, and Murji. These sheep were raised for their wool, and when pasture was plentiful, as on the broad fields of the estates after the grain had been cut, it was profitable to graze sheep for wool or meat. But on the small peasant holdings a profit could be made only by turning the milk to account, and for that reason the primitive coarse-wool milk breeds Raczka and Czigaja were found among the peasants. The wool of these breeds is coarse, but still marketable. The young males are usually killed for their pelts when four or five days old. These pelts are similar to the well-known Karakul or to Persian lamb. However, the main source of revenue is derived from the milk chiefly manufactured into cheese.

These milk sheep were popular in Croatia-Slavonia, Transylvania, and Voivodina and to a lesser extent in Ruthenia and Slovakia. The greatest numbers of sheep in proportion to the population were found in Transylvania (680 sheep per 1,000 inhabitants) and in Voivodina, where there were 433 sheep per 1,000 inhabitants. (See Table 42.)

TABLE 42.—*Classification and number of sheep in different districts that comprised the old Kingdom of Hungary, 1911.*

District.	Total.	Sheep.						Per 1,000 inhabitants.
		Merino.		Raczka and Czigaja.[1]		English and other types.		
	Number.	*Number.*	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Per cent.*	*Number.*
Hungary (1921 boundaries)	2,299,463	1,545,835	67.2	521,273	22.7	232,355	10.1	302
Transylvania (ceded to Rumania)	3,528,766	424,549	12.0	2,905,075	82.3	199,142	5.7	680
Slovakia (ceded to Czechoslovakia)	1,020,855	298,735	29.3	542,514	53.1	179,606	17.6	346
Ruthenia (ceded to Czechoslovakia)	184,832	50,312	27.2	114,715	62.1	19,805	10.7	322
Burgenland (ceded to Austria)	29,381	18,312	62.3	3,545	12.1	7,524	25.6	99
Croatia-Slavonia (ceded to Yugoslavia)	850,485	33,018	3.9	801,472	94.2	15,995	1.9	324
Murji (ceded to Yugoslavia)	23,113	17,137	74.2	3,982	17.2	1,994	8.6	126
Voivodina (ceded to Yugoslavia)	611,277	104,571	17.1	477,486	78.1	29,220	4.8	433
Total	8,548,172	2,492,469	29.2	5,370,062	62.8	685,641	8.0	410

[1] Includes "Fat-tail sheep" and Persian lamb of low grade.

The pre-war foreign trade in sheep of the old Kingdom of Hungary is shown in Table 43:

TABLE 43.—*Foreign trade in sheep, Hungary, average 1911–1915.*

Country.	Imports +.	Exports −.	Net.
	Number.	*Number.*	*Number.*
Austria	2,661	88,857	−86,196
Bosnia	149	1,945	−1,796
Germany		5,681	−5,681
Rumania	6,005		+6,005
Switzerland		4,038	−4,038
Other countries	87	236	−149
Total	8,902	100,757	−91,855

From a total number of 8,548,172 sheep before the war the old Kingdom of Hungary exported only 91,855 or 1.1 per cent of the number recorded in the 1911 census.

SHEEP SITUATION IN HUNGARY, 1920–21.

According to the census of 1911 there were 2,299,463 sheep in the territory now comprised within the present boundaries of Hungary, or 302 per 1,000 inhabitants. In 1920 there were 1,339,389 sheep or 169 per 1,000 inhabitants. This is a decrease of 41.8 per cent.

The foreign trade in sheep in 1921 is shown in Table 44:

TABLE 44.—*Foreign trade in sheep, Hungary, 1921.*

Country.	Imports +.	Exports −.	Net.
Austria		4,406	−4,406
Germany	14	6,016	−6,002
Netherlands		455	−455
Switzerland		390	−390
Total	14	11,267	−11,253

This net export is 0.8 per cent of the number of sheep enumerated in the 1920 census.

HORSES IN HUNGARY.

For centuries horse breeding has been one of the leading agricultural industries of Hungary. In the west, southwest, and southeast (Voivodina) the larger, stronger, and more energetic horses of a type suitable for carriage work were developed. In the northern and northeastern districts along the ranges of the Carpathians and among the mountain districts of Transylvania smaller, tougher horses were found. On the central plains between the Danube and the Tisza Rivers within the present boundaries of Hungary the popular types were light, medium-sized saddle and coach horses.

The whole horse-breeding industry of the old Kingdom centered about government stables, but there were many private establishments. The favorite breeds of horses were English thoroughbreds, English half-bloods, Arabs, American trotters, and to a less degree fast native breeds.

The manner in which the stallions, mares, and geldings were distributed throughout the old Kingdom is shown in Table 45. The districts where breeding is most intensified is indicated by a higher ratio of mares.

TABLE 45.—*Classification and number of horses in different districts that comprised the old Kingdom of Hungary, 1911.*

District.	Stallions.		Mares.		Geldings.		Total.	Per 1,000 inhabitants.
	Number.	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Number.*
Hungary (1921 boundaries)	69,834	7.9	531,494	60.1	282,504	32.0	883,832	116
Transylvania (ceded to Rumania)	31,583	6.2	270,830	53.1	208,053	40.8	510,466	98
Slovakia (ceded to Czechoslovakia)	9,736	4.0	110,694	45.5	122,671	50.5	243,101	82
Ruthenia (ceded to Czechoslovakia)	839	2.1	19,752	49.7	19,124	48.2	39,715	69
Burgenland (ceded to Austria)	1,232	5.1	13,544	55.6	9,590	39.4	24,366	82
Croatia-Slavonia (ceded to Yugoslavia)	20,296	5.8	205,054	58.6	124,700	35.6	350,050	134
Murji (ceded to Yugoslavia)	509	5.1	7,555	75.0	2,006	19.9	10,070	55
Voivodina (ceded to Yugoslavia)	29,934	10.4	169,295	58.5	89,951	31.1	289,180	205
Total	163,963	7.0	1,328,218	56.5	858,599	36.5	2,350,780	113

Most of the horses exported from Hungary were for military or breeding purposes. As was usual with other products of the agricultural industry in the old Kingdom of Hungary, almost the entire export of horses went to Austria, as shown in Table 46.

TABLE 46.—*Foreign trade in horses, Hungary, average 1911–1915.*

Country.	Imports +.	Exports −.	Net.
	Number.	*Number.*	*Number.*
Austria	911	37,329	−36,418
Belgium	36	.....	+36
Bulgaria	.....	559	−559
European Turkey	.....	1,187	−1,187
France	72	650	−578
Germany	34	2,179	−2,145
Greece	.....	496	−496
Italy	.....	7,088	−7,088
Rumania	77	4,173	−4,096
Russia	32	477	−445
Serbia	.....	695	−695
Other countries	36	173	−137
Total	1,198	55,006	−53,808

HORSE SITUATION IN 1920–1921.

According to the census of 1911 there were 883,832 horses in the territory now comprised within the present boundaries of Hungary, or 116 per 1,000 inhabitants. In 1920 there were 685,345, or 86 horses per 1,000 inhabitants. This is a decrease of 22.5 per cent.

In 1921 the foreign trade in horses was as indicated in Table 47.

TABLE 47.—*Foreign trade in horses, Hungary, 1921.*

Country.	Imports+.	Exports−.	Net.
	Number.	*Number.*	*Number.*
Austria	.....	3,150	−3,150
Germany	.....	3,532	−3,532
Italy	.....	2,357	−2,357
Rumania	155	.....	+155
Yugoslavia	1,795	.....	+1,795
Other countries	2	524	−522
Total	1,952	9,563	−7,611

CONSUMPTION NORMS OF HUNGARY.

The old Kingdom of Hungary produced a wheat and rye surplus that was almost completely absorbed by the old Kingdom of Austria. The domestic Hungarian production and consumption balanced

against net exports is given in "Das Österreichische Ernährungsproblem" prepared by the Austrian Food Ministry, based upon the records for 1909–13, is as follows:

Average wheat and rye balance in terms of flour.

	Short tons.
Net production (harvest less seed)	4, 112, 771
Received through customs houses (net)	89, 931
Total	4, 202, 702
Shipped to old Kingdom of Austria	1, 349, 566
Total Hungarian consumption	2, 853, 136
Average yearly per capita consumption of wheat and rye flour in Hungary. Population 20,886,487 lbs.	273. 2
Consumption per capita per day ozs.	12

The Hungarian Department of Agriculture calculated their yearly per capita consumption to be:

Wheat 292.6 pounds×0.75= 219.4 pounds wheat flour.
Rye 79.2 pounds× .75= 59.4 pounds rye flour.

Total 278.8 pounds wheat and rye flour.

The average difference between Austrian and Hungarian estimates is 6 pounds per capita per year. However, the yearly variation in consumption (includes hold-over stocks) was very marked as brought out in Table 48 from Austrian sources:

TABLE 48.—*Résumé of the old Hungarian Kingdom: Production, import, and export of wheat, rye, and flour, 1909–1913.*

Item.	1909	1910	1911	1912	1913	Average, 1909–13.
(*a*) Area seeded:	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Wheat	8,799	9,375	9,162	9,576	8,533	9,089
Rye	2,658	2,811	2,733	2,818	2,723	2,749
(*b*) Production:	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Wheat	125,014	181,135	190,077	184,642	167,349	169.643
Rye	47,250	51,789	50,323	53,194	52,700	51,051
(*c*) Seed						
Wheat	26,168	27,881	27,247	28,477	25,377	27,030
Rye	8,469	8,957	8,708	8,978	8,677	8,758
(*d*) Net production of both wheat and rye	137,627	196,086	204,445	200,381	185,995	184.906
(*e*) Excess of imports (+) or exports (−) of grain trade with:						
Countries other than Austria—						
Wheat	+16,781	+5,372	+2,018	+111	−40	+4,848
Rye	+2	.....	+3	+3	.....	+2
Austria—						
Wheat	−8,770	−12,751	−16,837	−17,251	−18,413	−14,804
Rye	−8,282	−11,421	−12,206	−11,928	−9,863	−10,740
(*f*) Excess exports of grain: Wheat and rye	−270	−18,800	−27,022	−29,065	−28,316	−20,694
(*g*) Net production of grain minus the net export of grain	137,357	177,286	177,423	171,316	157,679	164,212
(*h*) Net surplus grain calculated to flour: Wheat 76.2 per cent, rye 72 per cent	*1,000 short tons.* 3,058	*1,000 short tons.* 3,968	*1,000 short tons.* 3,976	*1,000 short tons.* 3,829	*1,000 short tons.* 3,512	*1,000 short tons.* 3,669
(*i*) Exported to:						
Countries other than Austria	22	21	12	14	36	21
Austria	714	699	809	906	845	795
Total	736	720	821	920	881	816
(*j*) Surplus remaining in Hungary for consumption and as trade and mill stocks: Wheat and rye	2,322	3,248	3,155	2,909	2,631	2,853
(*k*) Per capita consumption of wheat and rye flour (=*j* divided by 20,886,487)	*Pounds.* 222.3	*Pounds.* 311.0	*Pounds.* 302.1	*Pounds.* 278.6	*Pounds.* 252.0	*Pounds.* 273.2

NOTE.—Above table is a translation of page 67 "Das Österreichische Ernährungsproblem."

As stated above the norm of flour consumption that was employed by the Hungarian Ministry of Agriculture is 278.9 pounds of flour. This is equivalent to 292.6 pounds of wheat and 79.2 pounds of rye. These amounts are assumed to have been the average consumption of grain for the entire old Kingdom.

APPENDIX I—THE LAND REFORM IN HUNGARY.

From a report by Digby A. Willson, United States vice consul, Budapest, Hungary. Dated June 22, 1923. Published by permission of the Department of State.

DIVISION OF ARABLE LAND.

According to the Royal Hungarian Ministry of Agriculture the present reported arable land area of 14,055,532 acres could permit the use of 6,213,000 cadastral yokes or 9,008,850 acres for the four most important products in the following ratio:

Product.	Area available.
	Acres.
Wheat	3,807,700
Rye	1,713,900
Barley	1,322,400
Maize	2,164,850

However, according to the final estimates given out for the past year only 4,950,709 cadastral yokes or 7,178,528 acres were utilized for the production of these four products. This total is divided as follows:

Product.	Area actually sown.	Difference in available area and that actually sown.
	Acres.	*Acres.*
Wheat	2,910,698	897,002
Rye	1,366,494	347,406
Barley	1,151,684	170,716
Maize	1,749,652	415,198

The condition above reported is one of the greatest problems with which the Ministry of Agriculture must cope, but it has been of recent years only that the producers have been made to appreciate the need of modern agricultural machinery if increased cultivation of the arable land area is to be made possible. However, the Ministry of Agriculture, fully appreciating the value of modern farm operating equipment, claims the need of foreign moral and financial assistance before any real increase in the country's cultivation of agricultural products can be guaranteed. The majority of the farmers are not in a position to purchase automotive agricultural implements and it is further claimed that a greater production at the present time would only result in a demand by the neighboring States for an immediate payment in kind to cover reparations.

DISTRIBUTION OF CULTIVATED LAND.

According to the figures obtained from the Ministry of Agriculture and the taxation bureau of the Ministry of Finance, the cultivated area of Hungary on April 1, 1923, amounted to 16,118,899 cadastral yokes or 23,372,403 acres. In order to illustrate the distribution of this area Table 49 has been prepared in this consulate from official figures just received:

TABLE 49.—*Distribution of cultivated land according to class of estates in Hungary, April, 1923.*

Class of estates.	Number of estates.	Per cent.	Area in cadastral yokes.	Per cent.
Entailed estates	3,258	0.4	3,850,070	23.9
Estates fee simple	782,523	99.6	12,268,829	76.1
Total	785,781	100.0	16,118,899	100.0

It is of importance to observe that the entailed estates amounting to only 0.4 per cent of the total number of estates registered in Hungary actually form 23.9 per cent of the cultivated area of the country.

The number of estates given in Table 49 are divided, according to size, in the following manner:

TABLE 50.—*Distribution of cultivated land in Hungary according to size of estates, April, 1923.*

Size of estates.	Number.	Per cent.	Area in cadastral yokes.	Per cent.
Under 100 yokes	775,000	98.60	7,474,287	46.4
100 to 500 yokes	7,848	1.00	1,695,744	10.5
500 to 1,000 yokes	1,417	0.20	970,272	6.0
1,000 to 5,000 yokes	1,213	0.18	2,383,691	14.8
5,000 yokes and over	303	0.02	3,594,905	22.3
Total	785,781	100.00	16,118,899	100.0

Although the so-called estates under 100 yokes amount to 98.6 per cent of the total number of estates claimed by the Ministry of Agriculture to be in present Hungary, the area totals only 46.4 per cent, or less than half of the cultivated area of the country.

The land reform act aims to diminish the abnormal difference shown in the above comparison by distributing the larger estates among "war heroes," agricultural laborers, pensioned public employees, honorably discharged soldiers and public employees, graduate agriculturists, and others. An attempt has been made already to divide the land in accordance with the reform, but reports claim that the land actually given out was only leased because of the combined protest of the large landowners against a definite distribution without reimbursement.

According to the statistical bureau the large landowners who control the majority of the cultivated area of the country form only 1.4 per cent of the total population of the country.

Table 51 illustrates the distribution of the estates in fee simple according to their size:

TABLE 51.—*Distribution of cultivated land in estates in fee simple according to size in Hungary, April, 1923.*

Size of estates.	Number.	Per cent.	Area in cadastral yokes.	Per cent.
Under 100 yokes	775,000	99.10	7,474,287	60.9
100 to 500 yokes	5,442	0.70	1,145,413	9.3
500 to 1,000 yokes	1,005	0.10	684,802	5.6
1,000 to 5,000 yokes	938	0.09	1,815,354	14.8
5,000 and over	138	0.01	1,148,973	9.4
Total	782,523	100.00	12,268,829	100.0

According to the taxation bureau of the Ministry of Finance there are some entailed estates included in the above figures showing the estates in fee simple under 100 yokes in size, but no survey has been made which would clearly differentiate these.

The figures given in Table 52 have been secured from the taxation bureau of the Ministry of Finance in order to illustrate clearly the distribution of the estates according to the division of the cultivated area.

TABLE 52.—*Utilization of land on large estates and small holdings in Hungary, April 1, 1923.*

Estates.	Number of estates.	Arable land.	Gardens.	Meadows and pastures.	Vineyards.	Forests.	Cane.	Not under taxation.	Total.
		1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Entailed estates	3,258	1,749	15	1,604	19	1,444	31	613	5,475
Government lands	21	78	1	30	1	126	(1)	14	250
Municipal lands	1,024	248	3	328	6	179	8	259	1,031
Foundation lands	51	128	1	77	1	70	3	34	314
Educational fund lands	29	27	(1)	13	(1)	21	(1)	8	69
Ecclesiastical lands	359	504	3	289	3	359	9	101	1,268
Private hereditary	92	625	5	299	3	425	7	80	1,444
Commonwealth lands	1,452	27	(1)	519	1	208	3	81	839
Corporation lands	230	112	2	49	4	56	1	36	260
Entailed estates according to size:									
100 to 500 yokes	2,406	132	3	339	4	145	2	157	782
500 to 1,000 yokes	412	72	1	183	2	78	2	69	407
1,000 to 5,000 yokes	275	275	2	230	3	176	4	118	808
Over 5,000 yokes	165	1,270	9	852	10	1,045	23	269	3,478
Estates in fee simple	782,523	12,035	230	2,543	521	1,271	38	808	17,446
According to size:									
Under 100 yokes	775,000	7,826	196	1,243	478	300	16	569	10,628
100 to 500 yokes	5,442	1,142	9	320	19	88	8	42	1,628
500 to 1,000 yokes	1,005	642	6	190	8	94	4	29	973
1,000 to 5,000 yokes	938	1,568	13	481	11	417	6	86	2,582
Over 5,000 yokes	138	857	6	309	5	372	4	82	1,635
Total estates	785,781	13,784	245	4,147	540	2,715	69	1,421	22,921

SUMMARY.

Total estates according to size:									
Under 100 yokes	775,000	7,826	196	1,243	478	300	16	569	10,628
100 to 500 yokes	7,848	1,274	12	659	23	233	10	199	2,410
500 to 1,000 yokes	1,417	714	7	373	10	172	6	98	1,380
1,000 to 5,000 yokes	1,213	1,843	15	711	14	593	10	204	3,390
Over 5,000 yokes	303	2,127	15	1,161	15	1,417	27	351	5,113
Total	785,781	13,784	245	4,147	540	2,715	69	1,421	22,921

[1] Less than 500 acres.

1 cadestral yoke=1.422 acres. The equivalent used by Consul Willson in the foregoing pages is only approximately correct.

The survey shown in Table 52 illustrates that on April 1, 1923, there were 785,781 estates in Hungary with a total cultivated area of 16,118,899 yokes, or 23,372,403 acres. The officials of the Ministry of Finance state that a total of 11,402,566 yokes, or 16,533,721 acres, of the cultivated area of the country is in a recognized improved condition and that the value of this area, including farm buildings, has been estimated at 5,625,000,000,000 Hungarian crowns. This declaration of the finance ministry officials is based on the values obtained from real-estate dealers and the National Law Reform Tribunal.

PRODUCTION.

The 1922 production of the most important agricultural products and by-products are summarized in Table 53. This information was obtained from the ministries of agriculture and commerce on special request of the consulate.

TABLE 53.—*Production and estimated value of specified agricultural products and by-products in Hungary, 1922.*

Product.	Production.	Estimated value.
	Bushels.	*Million crowns.*
Wheat	45,073,598	245,343
Rye	21,442,412	76,254
Barley	20,876,138	49,998
Oats	22,268,113	45,251
Maize	32,493,402	90,792
Potatoes	33,858,577	36,860
Beans	1,175,787	4,480
Peas	220,460	1,080
	Short tons.	
Sugar beets	632,005	8,027
Alfalfa	826,725	22,500
Clover	440,920	13,750
Broom corn	8,818	4,500
Sugar (beet)	74,565	70,000
	Gallons.	
Wine	115,470,805	6,774
Alcohol	3,800,931	12,000
Total	.....	687,609

In the last half of 1922 the exchange value of the Hungarian crown varied between $0.000390 and $0.000978.

The ministry of agriculture has been endeavoring to educate the farming community of Hungary in the benefits which usually result from modern methods in agriculture. The majority of the farmers, however, still continue to follow the primitive methods of their ancestors, although the soil chemists at the various experimental stations have proved their arguments in favor of modern scientific farming.

At the experimental station in Kalocsa, about 170 miles from Budapest, the wheat which has been scientifically planted this year will amount to 16 quintals to each yoke (40 bushels to the acre). The farmers have been invited to the station for the purpose of learning the methods employed in scientific farming, but they have refused thus far to accept the object lesson given by the Government soil chemists. Therefore, it is expected that the general production this year will remain around 9 to 10 quintals to each yoke (22.75 to 25.34 bushels to the acre) providing there is no drought.

Although Hungary is essentially an agricultural country, it has been in recent years only, that attempts have been made by the ministry of agriculture, through the establishment of experimental stations in various sections of the country, to study the possiblities of increased production, etc.

As an example of recent developments it will be sufficient to remark that for the first time in the history of the country's agriculture the Government experts have experimented with autumn oats, and the results this year are reported to be far beyond all expectation.

The chief soil chemist of the Kalocsa station has become a very strong advocate of the system of dry farming adopted in the United States. His experiments with various grades of paprika are extremely satisfactory, but he states that it will take some years before the farmers will ever attempt dry farming methods in the production of paprika or any other product.

THE AGRICULTURAL SITUATION IN AUSTRIA.

GENERAL CHARACTER OF THE COUNTRY.

The Austrian Republic consists of what is left of the old Austrian Kingdom after segregating from it the territories that were ceded to Rumania, Poland, Czechoslovakia, Yugoslavia, and Italy. To this residuary part of the old Kingdom 1,660 square miles have been added, by the recent cession of Burgenland, to Austria by Hungary. In all, the republic comprises 32,432 square miles and has a population of nearly 6,500,000 people.

As seen from the accompanying map (fig. 8), the present Republic of Austria is about one-fourth the size of the old Kingdom of Austria

FIG. 8.—When the Austro-Hungarian Empire was split up, the territory of Bucovina to the northeast was ceded to Rumania; the territory of Galicia to the north was incorporated into the Republic of Poland; the districts of Bohemia, Moravia, and Silesia to the northwest were incorporated into the Republic of Czechoslovakia; part of the Tirol and the Istrian Peninsula were ceded to Italy, while Slovenia was incorporated into the Kingdom of Yugoslavia. The Republic of Austria is comprised of the districts about Vienna and the mountainous districts to the west occupied by the German Austrians.

and about one-eighth the size of the former Austro-Hungarian Monarchy.

Vienna, the capital city, with a population of about 2,000,000 is situated on the Danube River. There is river navigation to the west far into Germany and to the east and south through Hungary, through the Voivodina of Yugoslavia, and on through the "Iron Gate" into Bulgaria and Rumania to the Black Sea. Railways radiate from Vienna through Czechoslovakia to Germany and Poland on the north, through Germany to Switzerland and France on the west, through Hungary to Rumania and Russia on the east, and on the south direct lines to Italy and through Yugoslavia to Bulgaria and Greece. Besides being a manufacturing center, Vienna is the gateway of commerce in food and raw materials between the western industrial Europe and eastern Europe.

A comparison in area and population between the Austrian Republic and several of the other small European countries in 1920–21 is given in Table 54.

TABLE 54.—*Area and population of Austria, compared with Bavaria, Belgium, Netherlands, and Switzerland, 1920–1921.*

Country.	Area.	Population.	
		Total.	Per square mile.
	Square miles.	*Number.*	*Number.*
Austria	32,432	6,428,000	198
Bavaria	30,562	7,140,340	234
Belgium	11,752	7,462,455	635
Netherlands	12,582	6,865,314	546
Switzerland	15,975	3,880,320	243

Source: Statesman's Yearbook, 1923, except for Austria, for which area and population are obtained directly from official sources.

Austria's situation is similar to that of Switzerland. Lying in the center of Europe, the country is distinctly mountainous in character and its agricultural production is not sufficient to meet the domestic consumption requirements of the population. It has always been necessary for Austria to import large quantities of foodstuffs and to cover the balance of trade by industrial and commercial activities.

The place of agriculture among the other activities of Austria is indicated in Table 55. In this table the statistics for Burgenland (recently ceded to Austria by Hungary) are recorded separately.

TABLE 55.—*Population of Austria, 1910 and 1920, and occupations of the inhabitants in 1910.*

POPULATION.

Country.	1910		1920		Loss.	
	Number.	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Per cent.*
Austria (without Burgenland)	6,354,919	95.5	6,131,445	95.4	223,474	3.5
Burgenland	[1] 296,891	4.5	[1] 296,787	4.6	104	.....
Total	6,651,810	100.0	6,428,232	100.0	223,578	3.4

OCCUPATIONS OF THE INHABITANTS, 1910.[2]

Country.	Agriculture, gardening, etc.		Lumbering, forestry, fishing, hunting, etc.		All other callings.	
	Number.	*Per cent.*	*Number.*	*Per cent.*	*Number.*	*Per cent.*
Austria (without Burgenland)	1,832,410	28.8	76,425	1.2	4,446,084	70.0
Burgenland	175,618	59.2	1,523	0.5	119,750	40.3
Total	2,008,028	30.2	77,948	1.2	4,565,834	68.6

[1] Provisional figures.
[2] At the extraordinary census of 1920 the occupation of the inhabitants was not taken.

NOTE.—The statistics in Tables 55 and 56 are the latest revised figures. These figures, like most of the numerical data in this report, were specially prepared for the Bureau of Agricultural Economics by Court-Councilor Dr. W. Thalmayer, Chief of the Bureau of Statistics, Ministry of Agriculture of the Republic of Austria.

Table 56 compares Austria's farming populations (contrasted to those engaged in other pursuits) with four of the Danube countries and the United States:

TABLE 56.—*Agricultural and nonagricultural population of Austria.*

Country.	Population in 1910 of present or 1921 boundaries.			
	On farms.		Not on farms.	
	Number.	*Per cent.*	*Number.*	*Per cent.*
Austria	2,008,028	30.2	4,643,782	69.8
Bulgaria	3,180,816	78.8	854,759	21.2
Czechoslovakia	5,848,523	41.3	8,300,144	58.7
Hungary	4,190,527	55.1	3,409,890	44.9
Rumania	12,913,317	79.4	3,348,860	20.6
United States (1920)	31,614,269	29.9	74,096,351	70.1

From these tables it is seen that with only 30 per cent of her population tilling the soil, Austria is not primarily an agricultural country; one of her first efforts must be to develop her crop and livestock production to the maximum in order to cut down the balance in trade forced against her under the necessity of feeding her industrial and commercial population.

TABLE 57.—*Utilization of the land in Austria, 1920 and 1921, compared with the pre-war normal year 1913.*

Classification.	Austria without Burgenland.		
	Pre-war (1913).	1920	1921
	Acres.	*Acres.*	*Acres.*
Cereals	2,823,110	2,080,691	2,204,687
Legumes	37,852	21,463	18,362
Industrial plants	20,353	21,745	23,536
Tubers, roots, etc.	599,615	415,541	457,894
Vegetables	45,861	45,536	48,390
Forage plants	827,181	781,093	856,113
Other crops	.....	[1] 193,025	[1] 224,080
Fallow	160,320	521,544	319,006
Total plow land	4,514,292	4,080,638	4,152,068
Decrease from pre-war	.....	433,654	362,224
Increase in fallow land	.....	361,224	158,686
Decrease in land under crops	.....	794,878	520,910
Plow land	4,514,292	.....	4,152,068
Natural meadows	2,195,308	.....	2,433,021
Vegetable gardens	190,672	.....	177,645
Fruit gardens	.....	.....	.....
Vineyards	108,998	.....	89,991
Pastures	3,137,762	.....	3,282,116
Forests	7,512,385	.....	7,557,106
Lakes, marshes, reeds, etc.	.....	.....	.....
Unproductive	2,025,523	.....	1,992,993
Total statistical area	19,684,940	.....	19,684,940

[1] Green manure, etc.
Source: Anbauflächen und Ernteergebnisse, im Gebiete der Republik. Österreich, 1918, 1920, and 1921.

Comparing 1921 with pre-war areas there has been a great decrease in cereals (600,000 acres), and a 142,000 acre decrease in tubers and roots. There has been an increase in fallow land and in crops

sown for green manure with a net loss of 362,000 acres of plow land and, due to the increase of fallow land, a loss in areas under crops of more than 500,000 acres.

As in most other regions of southeastern Europe there has been an increase in meadows and pastures, indicating increased activity in animal industry.

The great differences between pre-war agriculture and that of 1921 is the 362,000-acre decrease in tilled land and the 382,000-acre increase in meadows and pastures.

AUSTRIA'S POST-WAR DECREASE IN PRODUCTION.

AREA UNDER CULTIVATION.

Not taking into consideration the territory of Burgenland, of which statistics were not yet included in published reports with those of other parts of Austria in 1921, we have a distinct decrease in the area of land under plow during the post-war period as compared with the last pre-war year, 1913—

	Acres plowed.
1913	4, 514, 292
1918	4, 165, 213
1919	4, 084, 121
1920	4, 080, 638
1921	4, 152, 068

This decrease reached its low point in 1920, and the country is now on the gain. The causes attending the passing out of cultivation of more than 400,000 acres were purely economic. That is, they were not the results of any land reform movement similar to that taking place in Rumania, since only about 6.1 per cent of Austria's till land is in estates of more than 247 acres,[1] 93.9 per cent of the land being in small holdings. The great depreciation of the currency of the country, the resulting high cost of labor, the fixing of the price of bread to the city dweller so low that the peasant could not compete with America or even cover cost of production, shortage of draft animals, and inability to purchase commercial fertilizers [2] were all causes tending to discourage agriculture involving labor operations.

TABLE 58.—*Shortage of Commercial Fertilizers in Austria, 1921.*

Item.	Carloads of 10 tons.	
	Required.	Delivered.
Potash salts	4,250	650
Superphosphate and Thomas meal	14,500	1,800
Nitrogen fertilizers	4,000	700

[1] However, more than 50 per cent of the forests are held as large estates, 1,236 acres and over.
[2] Table 58 (taken from "Die Wirtschaftskräfte Österreichs" by Dr. Karl Hudeczek, Wien 1921) gives an idea of the fertilizer shortage.

TABLE 59.—*Area of crops in Austria, in 1919, 1920, 1921, and 1922 compared with the average of 1904–1913.*

[Not including Burgenland.]

Crop.	1904–1913 average [1]	1919 [2]	1920 [2]	1921 [2]	1922 [3]
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Wheat	463,312	370,776	371,250	377,742	380,231
Spelt	(4)	457	452	445	.....
Rye	1,010,700	716,679	714,084	758,350	758,117
Wheat and rye mixed	(4)	14,757	14,618	15,293	.....
Barley	351,114	232,573	239,979	266,401	281,451
Oats	805,546	606,050	627,866	664,188	656,572
Corn	113,666	103,957	102,265	112,250	112,130
Total cereals	2,724,338	2,045,249	2,070,514	2,194,669	.....
Decrease below pre-war	.....	679,089	653,824	529,669	.....
Percentage of decrease	.....	24.9	24.0	19.4	.....
Potatoes	336,056	239,351	291,168	327,220	357,999
Sugar beets	32,123	13,279	18,080	18,995	22,093
Fodder roots	185,325	82,045	101,827	106,705	.....
Clover	442,309	423,077	394,680	424,367	416,522
Natural meadows	2,113,940	2,400,060	2,377,104	2,417,565	2,740,905
Artificial meadows	247,100	337,944	321,435	319,006	2,740,905
Total forage	2,988,674	3,243,126	3,195,046	3,267,643	.....
Increase above pre-war	.....	254,452	206,372	278,969	.....
Percentage of increase	.....	8.5	6.9	9.3	.....

[1] Furnished by Austrian Ministry of Agriculture through Court Councilor Doctor Thalmayer.
[2] Anbauflächen und Ernteergebnisse im Gebiete der Republik Österreich, published 1920, 1921, and 1922.
[3] Report of United States Consul C. H. Foster, Vienna, June 11, 1923.
[4] Not separately stated.

In most cases the low point of production was reached in 1920, while 1921 shows a turn for the better.

It is significant that as the acreage of cereals has decreased (19.4 per cent in 1921) the areas under forage and fodder crops have increased 9.3 per cent. It is natural that the Austrian farmer soon learned the futility of saving the currency that he received in exchange for his farm products since the purchasing power of the Austrian crown was continually dropping. He began to diminish the seeding of crops to be sold for spot cash and to increase his wealth in other ways.

TABLE 60.—*Production of crops in Austria in 1919, 1920, 1921, and 1922 compared with the average of 1904–1913.*

[Not including Burgenland.]

Crop.	1904–1913 average.[1]	1919 final.[2]	1920 final.[2]	1921[2] preliminary.	1922[3] preliminary.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	9,321,784	5,113,610	5,434,218	6,529,853	6,363,177
Spelt	(4)	16,143	12,550	17,835	.....
Rye	21,758,615	9,035,065	10,097,903	13,161,096	12,610,855
Wheat and rye, mixed	(4)	159,845	165,041	210,250	.....
Barley	7,729,879	3,821,647	4,423,750	5,481,187	4,736,383
Oats	25,173,776	13,581,197	16,008,097	19,000,056	17,133,786
Corn	2,708,509	2,115,455	2,128,608	2,520,748	2,680,727
Total cereals	66,692,563	33,842,962	38,270,167	46,921,025	.....
Potatoes	44,529,245	20,021,593	24,707,015	30,606,649	47,290,003
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Sugar beets	276,236	82,883	143,779	103,391	134,282
Fodder roots	1,233,804	460,258	646,532	584,786	.....
Hay, clover, etc.	768,744	603,867	562,045	520,107	469,434
Natural meadows	3,400,044	2,463,599	3,128,386	2,762,347	2,554,086
Artificial meadows	356,263	345,275			
Total forage	5,758,855	3,872,999	4,336,963	3,867,240	.....

[1] Furnished by Austrian Ministry of Agriculture through Court Councilor Doctor Thalmayer.
[2] Anbauflächen und Ernteergebnisse im Gebiete der Republik Österreich published 1920, 1921, and 1922.
[3] Report of United States Consul C. H. Foster, Vienna, June 11, 1923.
[4] Not separately stated.

The logical way for the Austrian farmer to increase his wealth was by building up his flocks and herds. Consequently he extended his animal breeding, let more land go to pasture, put in more grass for forage, and planted more fodder.

The extent of the decrease in cereal production and the increase in forage area is brought out in Table 59, on page 48, in which the pre-war average 1904–1913 is contrasted with the post-war average 1919–1921. From this table we have the following:

	Acres.
Acreage under five cereals, 1904–1913	2,724,338
Acreage under five cereals, 1919–1921	2,103,026
Loss	621,312
Acreage under forage crops, 1904–1913	2,988,674
Acreage under forage crops, 1919–1921	3,235,272
Gain	246,598

The acreage lost to cereals will be recovered in the future to just the extent that the production of wheat and other grains prove more profitable than the production of meat. The Austrian Government is even looking forward to an increase of 25 per cent in the area under cereals.

TABLE 61.—*Yield per acre of crops in Austria, 1919, 1920, 1921, and 1922, compared with the average of 1904–1913.*

[Not including Burgenland.]

Crop.	1904–1913 average.	1919 final.	1920 final.	1921 preliminary.	1922 preliminary.
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	20.1	13.8	14.6	17.3	16.7
Spelt		35.3	27.8	40.1	
Rye	21.5	12.6	14.1	17.4	16.6
Maslin [1]		10.8	11.3	13.7	
Barley	23.3	16.4	18.4	20.6	18.1
Oats	31.3	22.4	25.5	28.6	26.1
Corn	23.8	20.3	20.8	22.5	23.9
Total cereals	24.5	16.5	18.5	21.4	
Potatoes	132.5	83.6	84.9	93.5	132.1
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Sugar beets	8.6	6.2	8.0	5.4	6.1
Fodder beets	6.7	5.6	6.3	5.5	
Hay, clover, etc	1.7	1.4	1.4	1.2	1.1
Natural meadows	1.6	1.0	1.2	1.0	.9
Artificial meadows	1.4	1.0			
Total forage	1.9	1.2	1.4	1.2	

[1] Wheat and rye mixed.

The decreases in yield per acre are due for the most part to lack of fertilizers (see page 56) and to insufficient tillage resulting from scarcity of labor.

TABLE 62.—*Area and production in Austria per 100 inhabitants, 1920, 1921, and 1922.*

[Not including Burgenland.]

Crop.	Pre-war.[1]		1920[2]		1921[2]		1922[2]	
	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.	Acres.	Bushels.
Wheat	7.3	146.7	6.1	88.6	6.2	106.5	6.2	103.8
Rye	15.9	342.4	11.6	164.7	12.4	214.6	12.4	205.7
Barley	5.2	121.6	3.9	72.1	4.3	89.4	4.3	77.2
Oats	12.7	396.1	10.2	261.1	10.8	309.9	10.7	279.4
Corn	1.8	42.6	1.7	34.7	1.8	41.1	1.8	43.7
Total	42.9	1,049.5	33.5	621.2	35.5	761.5	35.4	709.8
Potatoes	5.3	700.7	4.7	403.0	5.3	499.2	5.8	771.3
		Short tons.		*Short tons.*		*Short tons.*		*Short tons.*
Sugar beets	0.5	4.3	0.3	2.3	0.3	1.7	0.4	2.2
Fodder beets	2.9	19.4	1.7	10.5	1.7	9.5	.....	.....

[1] Population of 1910, 6,354,919 without Burgenland.
[2] Population of 1920, 6,131,445 without Burgenland.

BURGENLAND.

Burgenland is a strip of rich agricultural land ceded to the Republic of Austria by Hungary. According to the frontiers set in 1921 the total area of the district is 1,014,917 acres. It has a population of 296,787 of which 59.2 per cent are engaged in agriculture. The published statistics of Burgenland were not included in the crop reports of the Austrian Department of Agriculture until 1922. In the preliminary reports of that year the increase in the areas seeded to cereals is largely due to the inclusion of Burgenland statistics.

TABLE 63.—*Area, production, and consumption of cereals in Burgenland, average, 1911–1915.*

Crop.	Area seeded.	Per cent of total.	Production.	Seed.	Net production.	Consumed.	Surplus (+) or deficit(−).
	1,000 acres.		*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Wheat	126	32.9	2,513	357	2,156	1,255	+901
Rye	85	22.2	1,582	272	1,310	1,169	+141
Total bread cereals	211	55.1	4,095	629	3,466	2,424	+1,042
Barley	80	20.9	2,276	233	2,043	677	+1,366
Oats	50	13.0	1,940	220	1,720	804	+916
Corn	42	11.0	1,123	24	1,099	2,761	−1,662
Total fodder cereals	172	44.9	5,339	477	4,862	4,242	+620
Total, 5 cereals	383	100.0	9,434	1,106	8,328	6,666	+1,662

This district of Burgenland produced a surplus of all cereals with the exception of corn which was imported in relatively large quantities for fattening steers and swine for the Austrian and German markets.

The 1922 statistics given in Tables 59 and 60 as reported by United States Consul Foster do not include Burgenland; but the figures in areas seeded in 1922 as reported by the International Institute of Agriculture at Rome do include Burgenland and so we can obtain a preliminary idea of the general effect that the inclusion of this territory will have on Austria's agricultural situation. As indicated above, from the pre-war average surpluses and deficits it is evident that the acquisition of Burgenland is a distinct gain for Austria.

In comparing the statistics of crop years 1920 and 1921 with the pre-war period in Austria (without Burgenland), it is seen, from Table 64, that in 1921 there was considerable improvement over 1920:

TABLE 64.—*Area seeded in Austria in 1920 and 1921 compared with pre-war period, 1904–1913.*

[Not including Burgenland.]

Crop.	Average 1904–1913.	1920[1]	Decrease 1920 compared with average, 1904–1913.		1921[1]	Decrease 1921 compared with average, 1904–1913.	
			Area.	Per cent.		Area.	Per cent.
	1,000 acres.	*1,000 acres.*	*1,000 acres.*		*1,000 acres.*	*1,000 acres.*	
Wheat	463	371	92	19.9	378	85	18.4
Rye[2]	1,011	729	282	27.9	773	238	23.5
Total bread cereals	1,474	1,100	374	25.4	1,151	323	21.9
Barley	331	240	91	27.5	267	64	19.3
Oats	805	628	177	22.0	664	141	17.5
Corn	114	102	12	10.5	112	2	1.8
Total fodder cereals	1,250	970	280	22.4	1,043	207	16.6
Total, 5 cereals	2,724	2,070	654	24.0	2,194	530	19.5

[1] Burgenland not included, as at the time of collecting these statistics the frontiers of this district were not fully determined.
[2] Probably includes maslin.
Above data furnished by Court Councilor Thalmayer.

From a comparison of the 1922 areas given in Table 65 with the 1921 areas, directly it appears that in 1922 this district of Burgenland produced a surplus of cereals with the exception of corn which was imported in relatively large quantities for fattening steers and swine for the Austrian and German markets.

The 1922 statistics of Austria, as reported by the International Institute of Agriculture, can not be compared directly with those of 1921 because in 1922 the areas seeded to cereals in Burgenland were included with those of the rest of Austria for the first time. If we add to the Austrian pre-war average in Table 64 the Hungarian pre-war average for the territory comprised within the present boundaries of Burgenland we can compare the 1922 records to this combined pre-war average and thus get an approximate percentage of the decrease below pre-war which is comparable with the 1921 drop. Thus we have:

TABLE 65.—*Cereal crop area in Austria, including Burgenland, in 1922, compared with pre-war average.*

Crop.	Area seeded.			
	Pre-war average.[1]	1922	Decrease 1922 below pre-war average.	
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*Per cent.*
Wheat	589	460	129	21.9
Rye	1,096	834	262	23.9
Total bread cereals	1,685	1,294	391	23.2
Barley	411	313	98	23.8
Oats	856	704	152	17.8
Corn	155	148	7	4.5
Total fodder cereals	1,422	1,165	257	18.1
Total, 5 cereals	3,107	2,459	648	20.9

[1] Austria without Burgenland, 1904–13. Burgenland, 1911–1915.

Source: Unpublished data supplied by Court Councilor Thalmayer and Magyar Statisztikai Evkonyo; 1922 data from International Institute of Agriculture, 1922 Yearbook.

Comparing 1922 with 1921 directly it appears that in 1922 Austria improved her seeding of cereals by 265,000 acres. This was due to the added areas seeded in Burgenland.

A falling off in cereal areas for the crop of 1922 was quite universal through the Danube Basin.

PRE-WAR WHEAT AND RYE BALANCE OF THE OLD MONARCHY.

The bread-grain deficit of the old Kingdom of Austria was just about covered by Hungary's surplus so that practically the entire Hungarian wheat and rye crop was disposed of within the confines of the old Monarchy. The data in the following balance represents the average wheat and rye figures for the years 1909–1913:

Average wheat and rye in terms of flour,[3] 1909–1913.

Old Kingdom of Hungary:	Barrels.
Net yield (harvest less seed)	41, 967, 051
Received through customshouses (net)	917, 663
Total	42, 884, 714
Shipped to old Kingdom of Austria	13, 771, 082
Total consumption	29, 113, 632
Average yearly consumption by each of Hungary's 20,886,487 inhabitants — barrels	1. 39
Average yearly consumption by each of Hungary's 20,886,487 inhabitants — pounds	273
Consumption per capita per day — ounces	12

NOTE.—In making up this bread balance, wheat and rye are considered together. In Czechoslovakia it is estimated that the per capita consumption of wheat (grain) is 198 pounds and rye 220 pounds per year.

Old Kingdom of Austria:	Barrels.
Net yield (harvest less seed)	31, 587, 847
Received through customshouses other than Hungarian (net)	1, 240, 602
Total	32, 828, 449
Shipped from old Kingdom of Hungary	13, 771, 082
Total consumption	46, 599, 531
Average yearly consumption by each of Austria's 28,571,934 inhabitants — barrels	1. 63
Average yearly consumption by each of Austria's 28,571,934 inhabitants — pounds	320
Consumed per day — ounces	14

The peoples within the old Kingdom of Hungary ate less bread than the Austrians, making up their ration by greater use of Indian corn and vegetables.

The territory of the Republic of Austria contains the city of Vienna and the ratio of flour consumption within this territory was considerably greater than was calculated for the old Monarchy as a whole. The territory of the Republic consumed about 1.83 barrels per capita per year against the monarchy's 1.63. The pre-war balance between the production and consumption of wheat and rye within the 1921 confines of the Republic of Austria are shown in Table 66:

[3] In the following statement and elsewhere in the report the amounts in barrels have been obtained by reducing metric tons to pounds and dividing by 196.

TABLE 66.—*Average wheat and rye balance in Austria in 1904–1913 within the present boundaries.*

[Not including Burgenland.]

Crop.	Area seeded.	Production.	Less seed.	Net production in grain.	Net production in flour.
	Acres.	*Short tons.*	*Short tons.*	*Short tons.*	*1,000 barrels.*
Wheat	463,312	[2] 888,895	[3] 131,504	[3] 757,391	5,410
Rye [1]	1,010,700				

[1] Includes maslin.
[2] Wheat 9,321,784 bushels, rye 21,758,615 bushels.
[3] Original data in metric quintals, wheat and rye combined.
(See tables 55, 59, and 79.) The 6,355,000 inhabitants of the Republic of Austria (not including Burgenland) consumed yearly at the rate of 1.83 barrels per capita, 11,630,000 barrels of flour. Their production amounted to 5,410,000 barrels, leaving a normal balance of 6,220,000 barrels to be imported into the territory now comprising the Austrian Republic.

Under normal pre-war conditions the theoretical amount of wheat and rye flour that the Austrian Republic would have to import to supply normal consumption would have been around 6,000,000 barrels. But at the close of the war the population had decreased to 6,132,000, and the consumption rate had fallen off to 185 pounds per capita per year. On this basis the Austrian Department of Agriculture calculated that the total average requirements for wheat and rye during the period 1919–1921 was 5,788,000 barrels, or about 5,840,000 barrels less than pre-war.

The 1920 and 1921 balances between production, consumption, and import of wheat and rye are brought out in Tables 67 and 68.

TABLE 67.—*Average wheat and rye balance in Austria, 1920.*

[Not including Burgenland.]

Crop.	Area seeded (see table 55).	Production (see table 56).	Seed.	Net production in grain.	Net production in flour.[2]
	Acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 barrels.*
Wheat	371,250	5,434	1,104	4,330	1,010
Rye [1]	728,702	10,263	2,322	7,941	1,633
Total net production of flour					2,643

[1] Includes maslin.
[2] Converted from original data in metric quintals. The Austrian factor for converting wheat to flour by weight is 0.762; rye, 0.720.

	1,000 barrels.	1,000 barrels.
Average flour requirement, 1919–1921, for 6,132,000 inhabitants		5,788
Net production (1920)		2,643
Statistical deficit		3,145
Actual net imports (1920) (Tables 65 and 66):		
Wheat as flour	3,489	
Rye as flour	468	
Total net imports		3,957
Imports in excess of statistical requirements		812

TABLE 68.—*Average wheat and rye balance in Austria, 1921.*

[Not including Burgenland.]

Crop.	Area seeded (see table 55).	Production (see table 56).	Seed.	Net production in grain.	Net production in flour.[1]
	Acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 barrels.*
Wheat	377,742	6,530	1,123	5,407	1,261
Rye[2]	773,643	13,371	2,465	10,906	2,244
Total net production of flour					3,505

[1] Converted from original data in metric quintals. The Austrian factor for converting wheat to flour by weight is 0.762; rye, 0.720.
[2] Includes maslin.

	1,000 barrels.
Average flour requirement, 1919–1921, for 6,132,000 inhabitants	5,788
Net production, 1921	3,505
Statistical deficit	2,283
Actual net imports (1921) (Tables 65 and 66):	1,000 barrels.
Wheat as flour	4,090
Rye as flour	461
Total net imports	4,551
Imports in excess of statistical requirements	2,268

The countries of origin of the grain and flour that were imported into Austria during the years 1920 and 1921, together with the quantities, are given in Tables 69 and 70.

TABLE 69.—*International trade of Austria in wheat and wheat flour, by countries, calendar years 1920 and 1921.*

[Net imports.]

Countries.	Wheat.		Wheat flour.	
	1920	1921	1920	1921
	Bushels.	*Bushels.*	*Barrels.*	*Barrels.*
Germany	285,316	1,486,411	51,850	83,604
Italy	935,802	411,305	590,589	15,076
Netherlands	35,490	125,633	35,567	41,454
Rumania	1,470	21,998	282	48,201
Switzerland	143,248	72,531	58,342	787
Yugoslavia	1,450,763	1,183,393	138,218	180,209
Hungary	51,911	478,398	8,863	431,234
United States	1,043,364	3,028,235	1,574,940	215,343
Other countries	221,561	5,262,086	46,202	258,571
Total	4,218,925	12,069,990	2,504,853	1,274,479
Wheat to flour[1]			984,129	2,815,510
Total wheat flour			3,488,982	4,089,989

[1] See note or Table 70.

TABLE 70.—*International trade of Austria in rye and rye flour, by countries, calendar years 1920 and 1921.*

[Net imports.]

Countries.	Rye.		Rye flour.	
	1920	1921	1920	1921
	Bushels.	*Bushels.*	*Barrels.*	*Barrels.*
Germany	382,821	245,603	3,414	9
Italy	8	16,322	2	.....
Switzerland	34,514	55	7,761	.....
Yugoslavia	10,236	331,328	18,715	2,803
Czechoslovakia	184,950	10,940	171	174
Hungary	1,441	26,900	17	91,612
United States	1,331,882	368,629	1	1
Other countries	184,811	778,716	1	149
Total	2,130,663	1,778,498	30,082	94,748
Rye to flour[1]	.....	.....	438,308	365,862
Total rye flour	.....	.....	468,390	460,610

Original data in metric quintals multiplied by the Austrian factors—wheat to wheat flour, 0.762; rye to rye flour, 0.720. Product converted to barrels by multiplying by the factor $\frac{220.46}{196}$.

Austria imported relatively much larger amounts of wheat in 1921 than she did the preceding year, and her consumption per capita was increasing rapidly. Dividing the total flour requirement in pounds by the population gives 185 pounds as the average or statistical per capita consumption in 1921, but the consumption as a matter of fact, averaged more than that. If we add the 2,268,000 barrels excess imports to the average post-war (1919–1921) requirement of 5,788,000 barrels and divide the sum by 6,132,000 we have 257 pounds as the yearly per capita consumption.

INCREASED PER CAPITA CONSUMPTION OF BREAD.

In estimating the per capita consumption for the years 1922–1926 the Austrian Department of Agriculture proposes to employ the consumption of 344 pounds or 1.75 + barrels per capita per year; which is still 15 pounds below pre-war normal. The population figure that will be used will be 6,500,000. This increased population includes that of Burgenland.

TABLE 71.—*Average wheat and rye balance in Austria, 1922—preliminary approximation.*

[Not including Burgenland.]

Crop.	Area seeded (see Table 59).	Production (see Table 60).	Seed.	Net production.	Net production in flour.[1]
	Acres.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 barrels.*
Wheat	380,231	6,363	1,131	5,232	1,221
Rye[2]	758,117	12,611	2,416	10,195	2,097
Total net production of flour	.....	.....	.....	.....	3,318

[1] Converted from original data in metric quintals. The Austrian factor for converting wheat to flour by weight is 0.762; rye, 0.720.
[2] It is not known whether this includes maslin or not.

	1,000 barrels.
Average estimated flour requirement 1922–1926 for 6,500,000 inhabitants	11,394
Preliminary approximated net production, 1922	3,318
Statistical deficit	8,076
Average net surplus of Burgenland: (1,000 barrels.)	
Wheat flour	210
Rye flour	29
	239
Net approximate deficit	7,837

DRAWBACKS TO EFFECTIVE AGRICULTURAL OPERATIONS IN AUSTRIA.

The Austrian farmer has always operated under difficulties. In the first place, a large portion of the soil is low in plant food, which chiefly accounts for the great dropping off in yield per acre when the supply of commercial fertilizers was shut off by the outbreak of the war. This is indicated in Table 72.

TABLE 72.—*Average yield per acre of wheat, sugar beets, and clover.*

[See Table 61, p. 49.]

Crop	Yields per acre.		
	1904–1913	1914–1918	1919–1921
Wheat.....bushels..	20.1	16.1	14.1
Sugar beets.....short tons..	8.6	9.0	6.5
Clover.....do....	1.7	1.6	1.4

This can be remedied as soon as the farmer can get the required credits to enable him to purchase fertilizers abroad, since only ammonium-sulphate is manufactured within the Republic.

However, even with the use of commercial fertilizers the yield per acre can not be brought up to a higher standard than in Switzerland, since most of Austria's cultivated lands are located in the highlands more than 2,600 feet above sea level. Other things being equal, this limits Austria's production per acre to about two-thirds that of Germany.

The second drawback to effective agriculture is the "strip system" of land tenure. This strange system is almost incomprehensible to the American farmer. An idea of what is meant by the strip system of ownership can be gained by glancing at the map (fig. 9) of the farming district of Steinhaus on page 57.

This was probably an old estate that was divided up among the peasants more than a century ago. The entire area was recorded as being 675 acres. This land was in the possession of 34 peasants. There were 693 fields which averaged about 1 acre each. The average length of these fields was 667 feet, the average width 67 feet. Each peasant owned one or more of these tiny plots scattered here and there on the 675-acre tract. A fairly rich peasant would own several, as in the case of Johann Hirschvogel, whose fields are shown as the shaded areas at the top of the map; or, as in the case of Alois Mayr, whose fields are shown as the shaded areas at the bottom of the

map. Each of the other 32 owners had their plots widely scattered throughout this maze of little strips.

The tremendous loss of time and the difficulty in tilling such small plots is obvious.

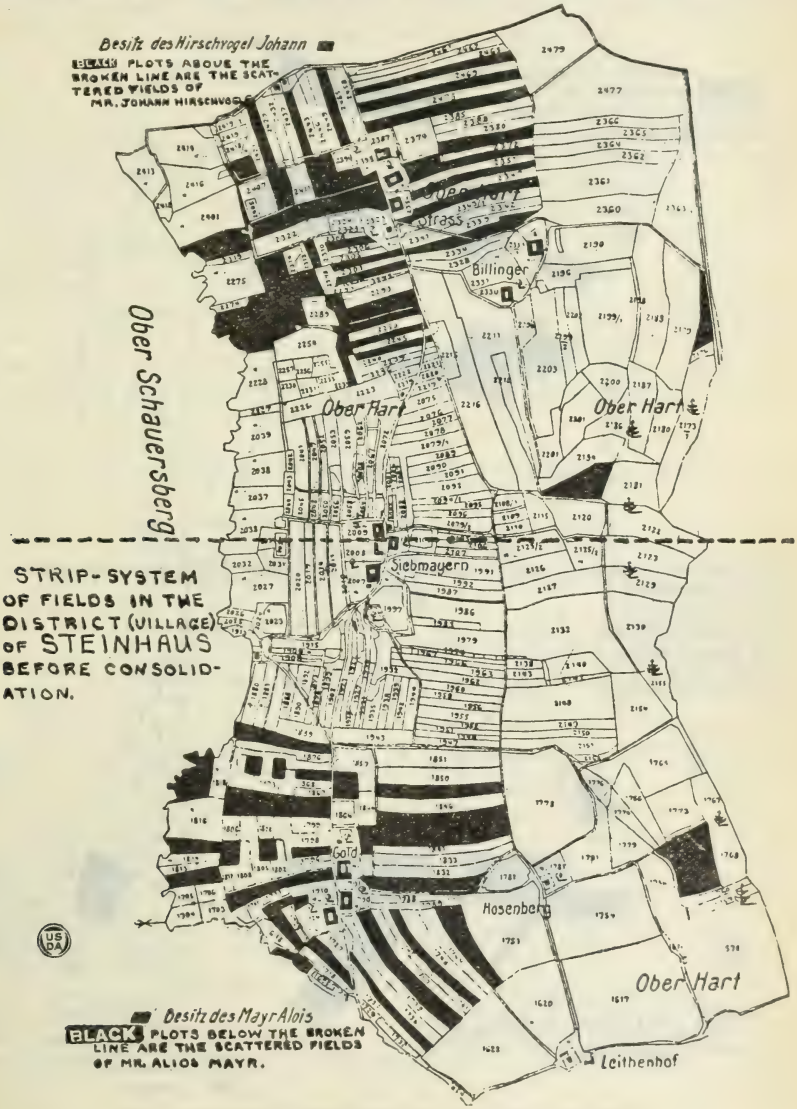

FIG. 9.—Strip system of land tenure in Austria before consolidation.

The system arose out of the enforcement of an ancient law that the heirs of a deceased should share equally in each piece of land of which he died possessed. Sometimes these heirs sold out, but throughout Europe it is a distinct honor to possess land and usually an heir would cling to his heritage however small. This resulted in the parceling of the land into minute strips.

Only recently the Imperial Austrian Government began a campaign to remedy this system of land tenure, so wasteful of time and energy, by concentrating the holdings of a single individual into a few fair-sized fields. Many difficulties had to be overcome in each case

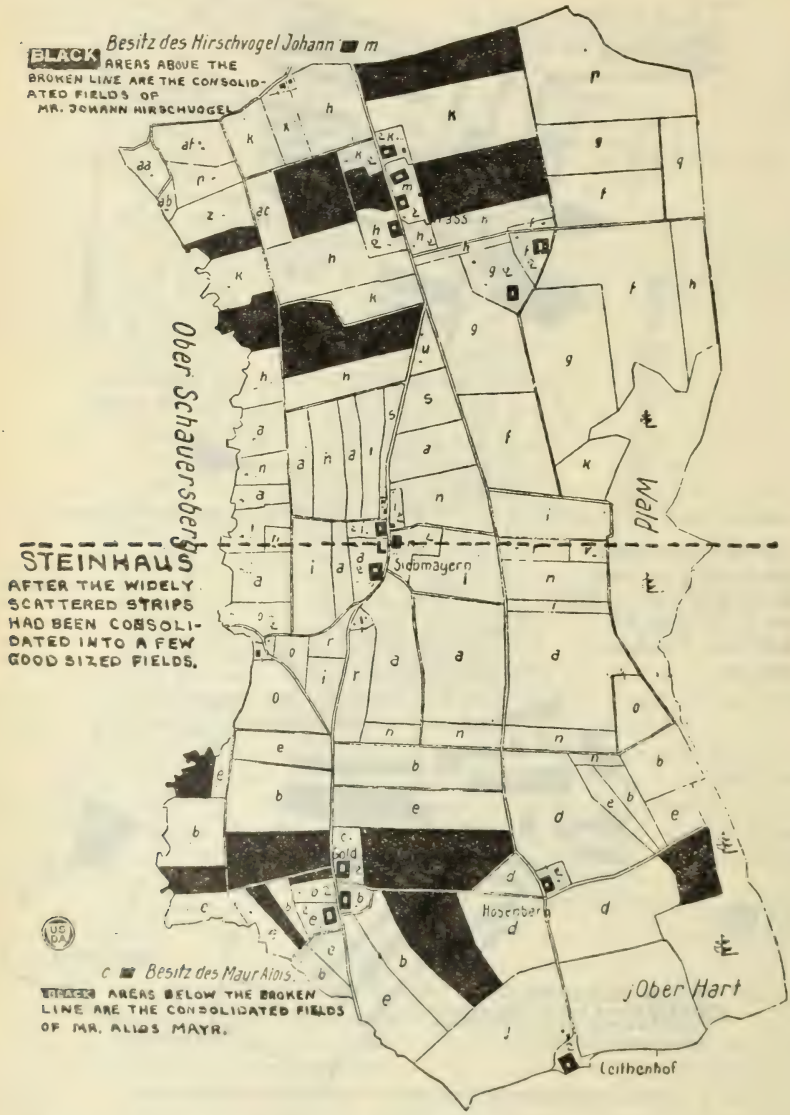

FIG. 10.—Strip system of land tenure in Austria after consolidation.

because of local prejudices and "conservatism," but great progress was being made when the war opened. The beneficial results of the concentration of individual holdings can be seen by a glance at the map of Steinhaus shown above after the concentration of the plots owned by a single individual had been effected.

The actual survey of the fields showed the total area of the community to be 579 acres. The number of fields are reduced from 690 to 119, a reduction of 83 per cent. The average size of each field was increased to about 5 acres.

Only by doing away with this absurd system of land tenure can Austria hope to bring her production up to maximum.

AUSTRIA PLANS TO INCREASE CROP PRODUCTION.

The Austrian Government is keenly alive to the needs of the present situation and a campaign is planned to bring production up as high as possible in an effort to meet internal requirements. This campaign includes use of better seed and fertilizers, and it also includes an active land reform which will increase the size of individual fields so that they can be cultivated effectively. Tables 73 and 74 contrast the previous performance (before the war, during the war, and immediately after the war) with what Austria hopes to accomplish in the next five years, and the highest to which the farmers can probably attain. These high points may not be attained in practice, but they at least fix the maximums set by the experts of the Austrian Government.

TABLE 73.—*Areas seeded in Austria in past years and proposed seedings of various crops, 1904–1926.*

Crop.	Before the war, 1904–1913.	Total tilled land.[1]	During the war, 1914–1918.	Total tilled land.[1]	After the war, 1919–1921.	Total tilled land.[1]	Proposed, for 1922–1926.	Total tilled land.[1]	Highest attainable.	Total tilled land.[1]
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	463,312	10.1	430,201	9.5	373,256	8.3	618,000	12.4	741,000	14.9
Rye	1,010,760	22.1	885,606	19.7	744,593	16.5	1,087,000	21.8	1,236,000	24.8
Total bread grains	1,474,012	32.2	1,315,807	29.2	1,117,849	24.8	1,705,000	34.2	1,977,000	39.7
Barley	331,114	7.2	285,648	6.3	246,318	5.5	400,000	8.1	494,000	9.9
Oats	805,546	17.6	758,844	16.8	632,702	14.0	850,000	17.1	988,000	19.8
Corn	113,666	2.5	123,056	2.7	106,157	2.4	151,000	3.0	173,000	3.5
Total fodder grains	1,250,326	27.3	1,167,548	25.8	985,177	21.9	1,401,000	28.2	1,655,000	33.2
Beans, peas, etc	42,995	.9	32,864	.7	20,015	.4	54,000	1.1	62,000	1.2
Potatoes	336,056	7.3	350,141	7.8	285,913	6.3	408,000	8.2	469,000	9.4
Sugar beets	32,123	.7	26,687	.6	16,785	.4	54,000	1.1	67,000	1.3
Fodder beets	185,325	4.0	145,789	3.2	96,859	2.2	198,000	4.0	247,000	5.0
Hay, clover, etc	442,309	9.7	452,440	10.1	414,042	9.2	445,000	8.9	494,000	9.9
Artificial meadows [2]	247,100	.....	303,439	.....	326,666	.....	247,000	.....	247,000	.....
Natural meadows [2]	2,113,940	.....	2,322,740	.....	2,396,870	.....	2,273,000	.....	2,348,000	.....
Total forage	2,803,349	.....	3,078,619	.....	3,137,578	.....	2,965,000	.....	3,089,000	.....

[1] These percentages are copied, with slight adjustments, from the original data furnished by Court Councilor Thalmayer. The base figure for total tilled land is not given in the original.

[2] Not tilled land.

TABLE 74.—*Production and yield per acre of crops in Austria, 1904–1921, and Government plans for the future.*

Crop.	Before the war average, 1904–1913,		During the war average, 1914–1918.		After the war average 1919–1921.		Proposed 1922–1926.		Estimated maximum.	
	Production.	Yield per acre.	Production.	Yield per acre.	Production.	Yield per acre.	Production.	Yield per acre.	Production.	Yield per acre.
	Bushels.	*Bush.*	*Bushels.*	*Bush.*	*Bushels.*	*Bush.*	*Bushels.*	*Bush.*	*Bushels.*	*Bush.*
Wheat	9,321,784	20.1	6,958,820	16.1	5,692,560	15.3	13,779,000	22.3	19,841,000	26.8
Rye	21,758,615	21.5	13,642,931	15.4	10,943,067	14.7	25,983,000	23.9	39,368,000	31.9
Total bread grains	31,080,399	21.1	20,601,751	15.7	16,635,627	14.9	39,762,000	23.3	59,209,000	29.9
Barley	7,729,879	23.3	5,412,293	19.0	4,575,528	18.6	10,417,000	26.0	16,534,000	33.5
Oats	25,173,776	31.3	18,897,556	24.8	16,196,450	25.6	30,809,000	36.2	44,092,000	44.6
Corn	2,708,509	23.8	3,137,618	25.5	2,254,937	21.2	4,803,000	31.8	7,165,000	41.4
Total fodder grains	35,612,164	28.5	27,447,467	23.5	23,026,915	23.4	46,029,000	32.9	67,791,000	41.0
Beans, peas, etc	626,474	14.6	422,916	12.9	282,924	14.1	970,000	18.0	1,378,000	22.2
Potatoes	44,529,245	132.5	37,696,455	107.8	25,111,752	87.8	60,626,000	148.6	90,756,000	193.5
	Short tons.	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*	*Short tons.*
Sugar beets	276,236	8.6	239,442	9.0	110,018	6.6	485,000	9.0	744,000	11.1
Fodder beets	1,233,804	6.7	845,310	5.8	563,859	5.8	1,587,000	8.0	3,086,000	12.5
Hay, clover, etc	768,744	1.7	740,580	1.6	562,006	1.4	893,000	2.0	1,323,000	2.7
Artificial meadows	356,263	1.4	367,000	1.2	300,000	.9	386,000	1.6	551,000	2.2
Natural meadows	3,400,044	1.6	3,194,653	1.4	2,600,000	1.1	4,056,000	1.8	4,712,000	2.0
Total hay (all kinds)	4,525,051	1.6	4,302,233	1.4	3,462,006	1.1	5,335,000	1.8	6,586,000	2.1
Straw (all kinds)	3,333,906	.....	2,160,199	.....	1,960,551	.....	4,230,000	.....	4,944,000	.....
	Pounds.		*Pounds.*		*Pounds.*		*Pounds.*		*Pounds.*	
Fruit	732,081,522	.....	619,272,140	.....	423,327,292	.....	771,610,000	.....	1,543,220,000	.....
	Gallons.		*Gallons.*		*Gallons.*		*Gallons.*		*Gallons.*	
Wine	2,900,597	.....	2,613,244	.....	856,332	.....	2,603,000	.....	3,904,000	.....

Taking cereals as an index, the Government plans not only to increase greatly the areas under cultivation, but also to increase production per acre at least 40 per cent above pre-war levels.

This is a heavy program that can be carried into effect only by concerted action by the Austrian Government and the Austrian farmer.

The farmer must have credits to enable him to get the necessary fertilizers and to bring his equipment of farm implements up to an efficient modern standard.

There must be an active land reform, not a splitting up of big estates into small holdings, as in the case in many parts of southeastern Europe, but the concentration of the minute strips of land owned by one man into a few units that can be effectively operated with modern farm implements.

All this is within the realm of the possible, but requires time and capital to bring it into reality. Even if the ideal is not attained,

the next few years should see a marked improvement in Austria's balance of trade in cereal and vegetable food supplies.

ANIMAL INDUSTRY IN AUSTRIA.

The animal industry of Austria was and is more highly developed than the production of field crops. Her high upland pastures are specially suited to developing good breeds of livestock.

Austria is rapidly recovering from war requisitions, which very greatly depleted her stocks of swine and horses, reducing the former by 30 per cent and the latter by 20.8 per cent, as compared with 1910 numbers. It is possible to quickly bring the number of swine up to pre-war level. This is largely a matter of finding sufficient feed. However, the question of horses is more serious.

Tables 75 and 76 show the number of each kind of domestic animal per 1,000 inhabitants in Austria and separately for Burgenland.

TABLE 75.—*Comparison between numbers of domestic animals in Austria, 1910 and 1920.*

[Not including Burgenland.]

Kind of animal.	1910		1920	
	Number.	*Per 1,000 inhabitants.*	*Number.*	*Per 1,000 inhabitants.*
Cattle	2,218,283	349	2,190,433	357
Horses	298,068	47	235,823	38
Swine	1,839,264	289	1,246,663	203
Sheep	295,993	47	450,491	73
Goats	234,034	37	319,711	52

Population in 1910 was 6,354,919; in 1920 it was 6,131,445.

TABLE 76.—*Comparison between numbers of domestic animals in Burgenland, 1911 and 1920.*

Kind of animal.	1911		1920	
	Number.	*Per 1,000 inhabitants.*	*Number.*	*Per 1,000 inhabitants.*
Cattle	143,512	483	129,522	436
Horses	24,366	82	16,434	55
Swine	121,154	408	107,357	362
Sheep	29,381	99	19,840	67

Population in 1910 was 296,891; in 1920 it was 296,787.

TABLE 77.—*Domestic animals in Austria, 1910 and 1920.*

[Includes Burgenland.]

Kind of animal.	1910	1920	Difference.	
	Number.	*Number.*	*Number.*	*Per cent.*
Horses	318,652	252,257	−66,395	−20.8
Cattle	2,355,878	2,319,955	−35,923	−1.5
Cows[1]	1,172,697	1,037,755	−134,942	−11.5
Young stock[1]	401,804	564,976	+163,172	+40.6
Swine	1,932,268	1,354,020	−578,248	−29.9
Sheep	300,783	452,475	+151,692	+50.4
Goats	239,147	322,203	+83,056	+34.7

[1] Included under "cattle."

Table 77 shows that there was a decrease of 66,395 horses. Of this number, 22,479 were from the city of Vienna and 31,102 from the two districts of Upper and Lower Austria. The rest of the country suffered but little.

The table shows that there has been a decrease of 11.5 per cent of the cows formerly held in the Republic. This decrease was confined largely to three districts, 58,000 from Lower Austria, 25,000 from Upper Austria, and 23,000 from Steiermark, all districts easily accessible to the requisition commission. The cattle statistics of Austria are probably inaccurate, just as they are in Czechoslovakia, Hungary, Yugoslavia, and other countries of the southeast, and the actual numbers of animals being fed is probably much greater than indicated here. During the war the peasants early learned to hide their cattle from the requisition commissions, and they have not yet fully recovered from this tendency toward secretiveness. The great gain of 40.6 per cent in young stock speaks well for the future. Austria has increased the number of her sheep 50 per cent. This is due largely to the relaxation of the state control of forests, for it is easy to drive the flocks into the woods, where they obtain fairly good grazing. The increase in goats to 34.7 per cent more than the pre-war number is significant. An increase of 59,000 took place largely in the district of Lower Austria in connection with the cheese industry.

During the last two years horses have been brought in from Hungary, and cattle and swine have continued to increase. It is probable that the total number of live animals in Austria to-day exceeds the pre-war total.

Before examining Austria's plans for the future development of her live-animal industry, it will be well to contrast the pre-war and post-war numbers of her domestic animals per 100 acres, as shown in Table 78.

TABLE 78.—*Number of domestic animals in Austria per each 100 acres of farm land, 1910 and 1920.*

Kind of animal.	1910	1920	Difference.
Horses	3.05	2.46	−0.59
Cattle	22.51	22.19	−0.32
Cows	11.21	9.92	−1.29
Young stock	3.83	5.40	+1.57
Swine	18.50	12.97	−5.53
Sheep	2.87	4.32	+1.45
Goats	2.29	3.09	+.80

The above decreases in horses, cows, and pigs do not seem to be great in comparison with the acreage. As pointed out before, Austria does not produce luxurious forage, and the problem is not so much producing sufficient numbers of young stock as it is keeping the animals in feed.

GOVERNMENT PLANS TO INCREASE ANIMAL PRODUCTION.

The development of field crop production, cereals, forage, and fodder, will go on parallel to the development of Austria's animal industry. Due to such considerations as the soil conditions of the

country, the elevation and climate, it will not be possible for the republic to cover her requirements of bread and meat by local production. It will always be necessary for her to import both cereal and animal products.

It is part of the general plan of the government to develop the pure breed side of her livestock industry, exporting breeding animals to the south and east and importing the grade stock from these countries for local consumption. Or she may follow the plan of Czechoslovakia and ship to western Europe her better grades of fat stock and import the coarser eastern animals for food.

POSSIBILITIES OF INCREASED FOOD PRODUCTION.

The Austrian Government has prepared a comprehensive plan for increasing domestic food production in order to supply as nearly as possible the requirements of its own people. The plans for increasing cereal production have already been indicated in Tables 73 and 74. In addition the plan involves the increase of domestic animals to the maximum fodder and forage possibilities of the country. This would mean about 2,700,000 cattle, 1,200,000 calves, 350,000 horses, 2,700,000 swine, 660,000 sheep and goats and 8,000,000 fowls. The government also hopes to improve the stock so that the annual milk production per cow will be increased from 502 to 582 gallons, and that of goats from 93 gallons to 106 gallons. It is thought possible also to increase the average egg production from 70 to 80 eggs per fowl.

In Table 79 this government plan is presented in condensed form, showing the actual production of food supplies before, during, and after the World War, the proposed production during the period 1922–1926 and the maximum production which the government hopes to attain. In this connection it is particularly important to consider the per capita production of the different classes of food products. During the war the production of flour, meat, milk, eggs, and fats decreased materially and there was some increase in barley, corn, and potatoes. In the period 1919–1921 the per capita production of all food products decreased below even the war levels, and only barley and corn remained above pre-war levels.

During the immediate transition period 1922–1926, the government plans to bring the per capita production of vegetable products above pre-war levels, while conserving animal products in order to increase the number of animals. In future years it is planned to increase cereal and vegetable production still further, and at the same time to produce greater quantites of meat and dairy products.

TABLE 79.—*Provisioning the Austrian civil population from yearly domestic production.*

Products.	Before the war 1904–1913: population 6,355,000.		During the war 1914–1918; population, 5,625,000 (10 per cent of the population in the army).		After the war 1919–1921; population, 6,132,000 (without Burgenland).		Proposed for 1922–1926; population, 6,500,000 (including Burgenland).		Maximum production; population, 7,150,000 (including Burgenland).	
	Total production.	Per capita.	Total production.	Per capita.	Total production.	Per capita.	Total production.	Per capita.	Total production.	Per capita.
	Tons.	*Lbs.*	*Tons.*	*Lbs.*	*Tons.*	*Lbs.*	*Tons.*	*Lbs.*	*Tons.*	*Lbs.*
Flour	530,174	167	379,579	135	270,885	88	692,135	213	1,064,822	298
Rolled barley and corn meal	22,046	7	44,092	16	33,069	11	55,115	17	66,138	19
Beans, peas, etc.	10,432	3	7,804	3	4,691	2	16,976	5	25,077	7
Potatoes	725,236	228	695,728	247	397,551	130	878,022	270	1,382,284	387
Sugar	33,148	10	27,009	10	11,814	4	55,291	17	84,822	24
Meat	213,952	67	[1] 128,341	46	127,226	41	166,304	51	284,580	80
Fats (cooking)	31,077	10	[1] 19,721	7	19,602	6	24,535	8	40,693	11
Butter	27,998	9	25,353	9	[2] 23,369	8	26,014	8	32,408	9
	1,000 galls.	*Galls.*	*1,000 galls.*	*Galls.*	*1,000 galls.*	*Galls.*	*1,000 galls.*	*Galls.*	*1,000 galls.*	*Galls.*
Milk [3]	298,776	47	195,750	35	162,993	27	259,943	40	388,330	54
	Number.		*Number.*		*Number.*		*Number.*		*Number.*	
Eggs	350,000,000	.....	260,000,000	.....	222,000,000	.....	315,000,000	.....	480,000,000	.....

[1] 85,550 additional tons of meat and 13,143 tons of fats used for army.
[2] 7,716 additional tons of butter unaccounted for. See Table 80.
[3] Milk converted on the basis of 8.6 pounds per gallon.

TOTAL FOOD REQUIREMENTS.

In looking forward to the future, an increase in population up to 7,150,000 has been anticipated. With this population, even should the relatively high per capita production as indicated in the last column be attained, it will still be necessary for Austria to import large quantities of all kinds of foods except possibly milk.

In drafting its plan for increasing agricultural production the Ministry of Agriculture has kept in mind not only the economic necessity of maximum production and minimum imports, but also the balanced ration necessary to maintain the people in a state of productive efficiency.

It is calculated that in western Europe the normal daily food requirement of the average person is 3,000 calories. The average requirement for Austria, on account of the altitude and climatic conditions is probably somewhat higher. From Table 80 it will be seen that before the war actual food consumption of the Austrian people averages somewhat above the western European normal.

It must be borne in mind that 70 per cent of the people are city and town dwellers, and that the above calculations pertain primarily to these urban populations. Before the war the rural population was not so well fed, but since the war it is probably better fed than the urban population. During the war all classes were on short rations and after the war food supplies fell off until the people were in actual want. The daily ration of 2,070 calories was not sufficient to support normal bodily functions.

TABLE 80.—*Estimate of the food supply of the civil population of Austria per capita in pounds and calories.*

Article.	Consumption per year.									
	Before the war, 1904 to 1913.		During the war, 1914 to 1918.		After the war, 1919 to 1921.		Proposed for 1922 to 1926.		Government plans for future years.	
	Pounds.	*1,000 calories.*	*Pounds.*	*1,000 calories.*	*Pounds.*	*1,000 calories.*	*Pounds.*	*1,000 calories.*	*Pounds*	*1,000 calories.*
Flour	359	522	258	374	185	269	344	499	344	499
Rolled barley and corn meal	11	16	13	19	20	29	11	16	11	16
Beans, peas, etc	20	23	26	30	33	38	29	33	26	30
Potatoes	344	125	353	128	397	144	459	166	459	166
Sugar	46	84	55	100	33	60	44	80	44	80
Meat	146	66	110	50	66	30	88	40	106	48
Cooking fat	33	135	22	90	13	54	18	72	22	90
Butter	26	96	18	64	11	40	18	64	22	80
Milk	463	141	386	116	282	86	392	119	454	138
Eggs	13	8	10	6	6	4	9	6	11	7
Total		1,216		977		754		1,095		1,154
Calories per capita per day	3,330		2,680		2,070		3,000		3,160	

From Table 80 it will be seen that Austria plans to make less use of cereals, meat, milk, butter, and eggs than she did before the war, substituting potatoes and beans in their places. It is a question whether this can be done. The working man and the farmer are eating more meat than formerly and will continue to live better than they did before the war. If this tendency continues, the relative proportions of the different articles of food will be materially changed, and the change will modify upward the import requirements of meat and flour forecasted in the last column of Table 81. In this table for each period the first column gives the total internal consumption of the different articles of food, the next column the total internal production, while the fourth column gives amounts required to balance the deficit. Actual imports may have been more or less than indicated here. The third column shows the percentages of domestic production as compared with the total requirements.

TABLE 81.—*Yearly production and consumption of food in Austria.*

Article.	Before the war (1904–1913).				During the war (1914–1918).			
	Consumption.	Domestic production.		Required import.	Consumption.	Domestic production.		Required import.
	Short tons.	*Short tons.*	*Per cent of requirement.*	*Short tons.*	*Short tons.*	*Short tons.*	*Per cent of requirement.*	*Short tons.*
Flour	1,140,881	530,174	46.5	610,707	725,313	379,579	52.3	345,734
Rolled barley, etc	35,274	22,045	62.5	13,228	37,478	44,092	117.6	
Beans, peas, etc	62,831	10,432	16.6	52,399	73,854	7,804	10.6	66,050
Potatoes	1,092,379	725,236	66.4	367,143	997,582	695,728	69.7	301,854
Sugar	146,606	33,148	22.6	113,558	155,424	27,009	17.4	128,415
Meat	462,966	213,952	46.2	249,014	309,746	128,341	41.4	181,405
Cooking fat	104,719	31,077	29.7	73,642	61,729	19,721	31.9	42,008
Butter	83,775	27,998	33.4	55,777	49,604	25,353	51.1	24,251
Milk..1,000 gallons	352,667	298,776	84.7	53,891	260,207	195,750	75.2	64,457
Eggs.....millions	662	350	52.9	312	450	260	57.8	190

TABLE 81.—*Yearly production and consumption of food in Austria*—Continued.

Article.	After the war (1919–1921).				Proposed for 1922–1926.			
	Consumption.	Domestic production.		Required import.	Consumption.	Domestic production.		Required import.
	Short tons.	*Short tons.*	*Per cent of requirement.*	*Short tons.*	*Short tons.*	*Short tons.*	*Per cent of requirement.*	*Short tons.*
Flour	567,685	270,885	47.7	296,800	1,116,630	692,135	62.0	424,495
Rolled barley, etc	60,627	33,069	54.5	27,558	36,376	55,115	151.5	.....
Beans, peas, etc	101,412	4,691	4.6	96,721	92,593	16,976	18.3	75,617
Potatoes	1,215,837	397,551	32.7	817,286	1,488,105	878,022	59.0	610,083
Sugar	101,412	11,814	11.6	89,598	143,299	55,291	38.6	88,008
Meat	202,823	127,221	62.7	75,602	286,598	166,304	58.0	120,294
Cooking fat	40,785	19,602	48.1	21,183	57,320	24,535	42.8	32,785
Butter	34,171	23,369	68.4	10,802	57,320	26,014	45.4	31,306
Milk, 1,000 gallons	207,373	162,993	78.6	44,381	305,116	259,943	85.2	45,173
Eggs, millions	319	222	69.6	97	455	315	69.2	140

Article.	Government plan for future years.			
	Consumption.	Domestic production.		Required import.
	Short tons.	*Short tons.*	*Per cent of requirement.*	*Short tons.*
Flour	1,256,622	1,064,822	84.7	191,800
Rolled barley, etc	39,683	66,138	166.7	.....
Beans, peas, etc	94,798	25,077	26.5	69,721
Potatoes	1,636,916	1,382,284	84.4	254,632
Sugar	157,629	84,822	53.8	72,807
Meat	378,089	284,580	75.3	93,509
Cooking fat	79,366	40,693	51.3	38,673
Butter	79,366	32,408	40.8	46,958
Milk, 1,000 gallons	388,330	388,330	100.0	.....
Eggs, millions	600	480	80.0	120

RELATIVELY HEAVY FOOD IMPORTS NECESSARY.

Before the war the area now comprising the Republic of Austria imported 53.5 per cent of the flour, 84.2 per cent of its beans and peas, 53.8 per cent of its meat, 15.3 per cent of its milk, and 47.1 per cent of its eggs consumed within the country. During the 3-year post war period terminating in 1921 these percentages of imports had somewhat fallen off although production had decreased. This was due to the fact that the people had reduced their food consumption about one-third of normal.

When normal food consumption is resumed after at least another four years, it is the aim of the Government to have so increased production that the imports will be reduced to 15.3 per cent of the flour, 73.5 per cent of beans and peas, 15.6 per cent of the potatoes, 46.2 per cent of the sugar, 48.7 per cent of the cooking fat, 59.2 per cent of the butter, and 20 per cent of the eggs consumed within the country.

This means that the Austrian Republic, through its agricultural reforms, expects to so raise production that the amounts of the yearly imports of foodstuffs will be greatly reduced below pre-war averages.

The figures in the last column of Table 81 take into consideration a possible increase in population to 7,150,000. But they do not take into consideration the higher standard of living that has been adopted by the Austrian peasants and the working men in the industrial centers. It is too early to predict numerically the effect of this demand

for better food. It is certain, however, that the people are eating more meat and that the general effect will be to revise upward most of the estimates of anticipated imports.

ORIGIN OF IMPORTS.

The agricultural imports of Austria come very largely from neighboring surplus-producing countries. As indicated in Tables 69 and 70, much of Austria's supply of flour has always come from Hungary. Tables 82 and 83 show the origin of the other cereal and potato imports. Relatively little is imported from the United States, although some American agricultural products may reach Austria by way of Germany or the Netherlands.

TABLE 82.—*Net imports of barley and corn into Austria, by countries, calendar years 1920 and 1921.*

Countries.	Barley.		Corn.	
	1920	1921	1920	1921
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
Germany	14,633	6,403	446,743	161,975
Italy	129,658	698	4,027	3,618
Netherlands	1,658	230	68,685	1,165
Rumania	7,050	282,147	80,228	383,297
Switzerland	142	73	191,186	20,463
Yugoslavia	284,228	713,464	2,985,241	4,624,865
Czechoslovakia	12,502	85,401	4	15,731
Hungary	510	140,828	882	530,257
United States	5,167	.....	210,087	250,935
Other countries	21,027	100,580	1,131,518	706,607
Total	476,575	1,329,824	5,118,601	6,698,913

TABLE 83.—*Net imports of oats and potatoes into Austria, by countries, calendar years 1920 and 1921.*

Countries.	Oats.		Potatoes.	
	1920	1921	1920	1921
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
Germany	30,437	38,587	1,141,358	479,607
Netherlands	2,701	.....	2,118,712	170,743
Rumania	847	24,822	551	.....
Switzerland	1,171	48	122,418	823
Yugoslavia	242,320	436,469	138,317	91,811
Czechoslovakia	38,305	30,527	69,831	44,121
Hungary	12,952	272,867	1,007,072	925,054
Other countries	2,446	8,028	1,314,886	2,436,105
Total	331,179	811,348	5,913,145	4,148,264

Source: Statistische Übersichten über den Auswärtigen Handel-Österreichs.

THE AGRICULTURAL SITUATION IN CZECHOSLOVAKIA.

GEOGRAPHY AND POPULATION.

The Republic of Czechoslovakia is made up of five districts. Three of these districts, Bohemia, Moravia, and Silesia, were formerly part of the Austrian Monarchy; to which part of the county of Ratibor was added from German Silesia. For clearness in this report, the inhabitants of these districts are called Czechs (see page 69). The two remaining districts were formerly part of the Kingdom of Hungary; Slovakia, which for the most part is inhabited by the Slovaks, a race closely allied to the Czechs, and Ruthenia, which is inhabited to a large extent by the sub-Carpathian Russians. The inhabitants of the latter district will be spoken of as Ruthenians.

FIG. 11.

The area of each of these subdivisions of the Republic, with its population in 1920, and the density of the population per square mile, is shown in Table 84.

TABLE 84.—*Area and population of Czechoslovakia, by subdivisions, 1920*

District.	Square miles.	Population.	Inhabitants per square mile.
Bohemia	20,057	6,664,932	332
Moravia	8,580	2,660,737	310
Silesia	1,987	670,837	338
Slovakia	25,617	2,993,479	117
Ruthenia	5,681	605,731	107
Total	61,922	13,595,716	220

The population of these districts in 1911 was 13,596,601, so that there has been but little net change. However, Bohemia has lost 117,031 inhabitants and the other districts have gained 116,146, showing a net loss of 885.

Prague, the capital city, with a population of 617,000 lies on the parallel of latitude passing about 2 degrees north of Winnipeg, Canada. Prague is on a branch of the River Elbe, giving cheap barge transportation to and from Hamburg and the North Sea, while the River Danube, skirting the Republic's southern frontier, gives cheap water transportation to the grain fields of southeastern Europe and the Black Sea.

The western districts of Bohemia, Moravia, and Silesia are hilly to mountainous with valleys of a fair degree of fertility. Before the war these districts produced an exportable surplus of rye and barley (malt). Slovakia merges into the great Hungarian plain, and is, in large part, good agricultural country producing a surplus of wheat. Farther east Ruthenia lies in the foothills of the Carpathian Mountains, and although this district is of less importance in raising grain, it has a very considerable revenue from livestock and forest products.

In the western districts 5,200,000 inhabitants derive their income from commerce and industry, while 3,400,000 are engaged in agriculture. The soil is not sufficiently rich and the climate is too severe to make it possible for this number of farming people to produce enough foodstuffs to feed the total population. So this portion of the Republic, which is not agriculturally self-supporting, will continue to import an important share of its annual food requirement.

In Slovakia more than 2,000,000, or 66 per cent of the people, are farming peasants. This region does produce a surplus; however, the Republic as a whole can be classed only as semiagricultural,[1] although 41 per cent of the people till the soil.

In 1922 the productive territory, including forests, was 33,084,622 acres, or 95.5 per cent (see Table 86). The unproductive territory was 1,596,333 acres, or 4.5 per cent.

The people of Czechoslovakia differ widely among themselves in race and language. This is illustrated by Table 85 in which the population is classified according to mother tongue.

TABLE 85.—*Native language of the inhabitants of Czechoslovakia in percentages of total population.*

District.	Population.	Czech.	German.	Slovak.	Ruthenian.	Polish.	Others.
		Per cent.	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*	*Per cent.*
Bohemia, Moravia, and Silesia	9,996,506	62.0	34.6	.....	.....	2.5	0.9
Slovakia	2,993,479	.2	6.3	51.0	4.6	.8	37.1
Ruthenia	605,731	.....	12.4	.2	43.0	.1	44.3
Total	13,595,716	45.6	27.4	11.2	2.9	2.0	10.9

[1] In Rumania, which is primarily an agricultural state, 79 per cent of the population are farming peasants.

UTILIZATION OF THE LAND.

The manner in which the land of Czechoslovakia was utilized in 1920, 1921, and 1922 under the Republic, in comparison with the manner in which this same territory was utilized when it was part of the Austro-Hungarian Monarchy, is brought out in Table 86:

TABLE 86.—*Utilization of land in Czechoslovakia, pre-war and 1920–1922.*

Area.

Item.	Pre-war.[1]	1920	1921	1922
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Cereals	9,624	7,978	7,783	7,850
Leguminous plants	301	415	473	462
Fiber plants, etc	183	169	145	141
Tubers, roots, etc	2,778	2,342	2,451	2,460
Vegetables	88	83	81	79
Forage plants	2,103	2,851	2,977	2,998
Other plants	.....	15	14	15
Untilled (fallow land)	393	899	637	574
Total plow land	15,470	14,752	14,561	14,579
Decrease from pre-war	.....	718	909	891
Increase in fallow land	.....	506	244	181
Decrease in land under crop	.....	1,224	1,153	1,072
Plow land	15,470	14,752	14,561	14,579
Natural prairies	3,200	3,416	3,432	3,425
Vegetable gardens	.....	59	40	40
Fruit gardens	409	319	321	321
Vineyards	59	46	43	43
Pastures	2,784	2,851	2,995	2,983
Forests	11,431	11,518	11,502	11,500
Lakes, marshes, etc	151	193	195	194
Unproductive	1,237	1,559	1,601	1,596
Total statistical area	34,741	34,713	34,690	34,681
Difference compared with pre-war	.....	28	51	60

[1] The pre-war averages for the former Austrian territory of Bohemia, Moravia, and Silesia are taken from "Statistisches Jahrbuch des K. K. Ackerbau-Ministeriums fur das Jahr 1912." The averages for the five chief cereals for the former Hungarian territory of Slovakia and Sub-Carpathian Russia are from "Magyar Statisztikai Evkonyv." The other averages are partially from the same source, from "La Hongrie apres le Traite de Trianon," from "Zpravy Statniho Uradu Statistichickeho Republiky Ceskoslovenske" and other authorities. The figures for the years 1920, 1921 and 1922 are from the "Zpravy" published by the Office of Statistics of Czechoslovakia.

Before the war there were in Czechoslovakia 112.9 acres of plow land per 100 inhabitants. In 1922 there were 106.3 acres per 100 inhabitants.

The first striking feature of Table 86 is that there has been a decrease in the amount of land normally plowed: 718,000 acres in 1920, 909,000 acres in 1921, and 891,000 acres in 1922.

Examining the first group of farm crops, we find that the heaviest absolute decrease was in cereal acreage, followed by tubers, roots, etc. (including sugar beets and potatoes). The fiber-plant acreage shows a decrease of over 20 per cent and vegetables 10 per cent. There has been an increased planting of beans, peas, etc.; a great increase in forage plants and a large amount of land has lain fallow. Examining the second group, we see that the meadows (prairies) have increased, as have the pasture lands, while considerable land has been allowed to go back to marsh. In addition to the 8 per cent of the plow land not plowed, 359,000 acres more than average are classed as "unproductive" in the year 1922.

The general tendency during the past few years has been toward a decreased acreage in all cereals except corn, as shown in Table 87.

TABLE 87.—*Area in cereals, potatoes, and sugar beets in Czechoslovakia, pre-war and 1920–1922.*

Item.	Pre-war.	1920	1921	1922
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000 acres.*
Wheat	1,727	1,566	1,557	1,527
Rye	2,593	2,271	2,226	2,218
Barley	2,373	1,710	1,583	1,667
Oats	2,460	1,972	2,003	2,016
Corn	374	369	363	392
Total (5 chief cereals)	9,527	7,888	7,732	7,820
Decrease from pre-war average	.....	1,639	1,795	1,707
Percentage of decrease	.....	17.2	18.8	17.9
Potatoes	1,900	1,494	1,574	1,606
Sugar beets	699	517	544	519

The 1923 area planted to sugar beets is estimated at 542,000 acres.

The yields of the five chief cereals have also undergone changes due to changes in areas seeded, lack of fertilizers and climatic conditions as shown in Table 88:

TABLE 88.—*Production of cereals, potatoes, and sugar beets in Czechoslovakia, pre-war and 1920–1922.*

Item.	Pre-war.	1920	1921	1922
	1,000 bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Wheat	37,760	26,375	40,658	33,621
Rye	61,000	33,681	55,764	52,041
Barley	59,722	37,244	47,358	46,352
Oats	66,238	59,659	72,324	71,552
Corn	8,126	9,648	10,501	9,884
Total (5 chief cereals)	232,846	166,607	226,605	213,450
Potatoes	267,542	183,810	136,429	333,231
Sugar beets ..... short tons..	7,783	5,270	4,811	5,776

From the two foregoing tables we obtain the following yields per acre:

TABLE 89.—*Yield per acre of cereals, potatoes, and sugar beets, pre-war and 1920–1922.*

Item.	Pre-war.	1920	1921	1922
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	21.9	16.8	26.1	22.0
Rye [1]	23.5	14.8	25.1	23.5
Barley	25.2	21.8	29.9	27.8
Oats	26.9	30.3	36.1	35.5
Corn	21.7	26.1	28.9	25.2
Total	24.4	21.1	29.3	27.3
Potatoes	140.8	123.0	86.7	207.5
Sugar beets ..... short tons..	11.1	10.2	8.8	11.1

[1] Includes maslin.

Thus we have for each 100 inhabitants:

TABLE 90.—*Production per 100 inhabitants, cereals, potatoes, and sugar beets.*

Crop.	Pre-war.[1]		1922[2]	
	Acres.	*Bushels.*	*Acres.*	*Bushels.*
Wheat	12.7	277.7	11.2	247.3
Rye	19.1	448.6	16.3	382.8
Barley	17.5	439.2	12.3	340.9
Oats	18.1	487.2	14.8	526.3
Corn	2.8	59.8	2.9	72.7
Total cereals	70.2	1,712.5	57.5	1,570.0
Potatoes	14.0	1,967.7	11.8	2,451.0
		Short tons.		*Short tons.*
Sugar beets	5.1	57.2	3.8	42.5

[1] Pre-war population used here, 13,596,601, is according to Czech estimates. However, based on Austro-Hungarian figures, the population is estimated to have been 13,874,109.
[2] 1920 population, 13,595,716.

It is not possible to discuss the changes indicated in the foregoing tables between pre-war conditions and those of the last three years for the entire territory of Czechoslovakia and, at the same time, to give a picture that would be true for the agriculture of the country as a whole. Therefore this discussion will be reserved until the individual districts are taken up. At this time some of the general aspects of Czechoslovakia's agricultural situation will be considered.

THE WHEAT AND RYE SITUATION.

Based upon estimates made by the Austrian Government for Bohemia, Moravia, and Silesia and upon estimates based upon certain Hungarian data, the following pre-war average wheat balances between production, consumption, and import have been worked out:

Czechoslovakia's pre-war wheat balance.

Average acreage seeded	1,000 acres	1,727
Average production	1,000 bushels	37,760
Average seed	do	5,136
Net production	do	32,624
Average consumption [1]	do	45,496
Average deficit	do	12,872

Before the war the net imports of wheat into the territory now comprising Czechoslovakia were approximately 12,872,000 bushels. The Czechs imported 13,300,000 bushels (see page 80); 700,000 bushels (see page 92) were imported by the Ruthenians; while the Slovaks produced a surplus of about 1,200,000 bushels (see page 87).

Czechoslovakia's pre-war rye balance.

Average acreage seeded	1,000 acres	2,593
Average production	1,000 bushels	61,000
Average seed	do	8,264
Net production	do	52,736
Average consumption [1]	do	50,608
Average surplus	do	2,128

Before the war approximately 2,128,000 bushels of rye were exported yearly from the territory now comprising Czechoslovakia, making the net import of bread cereals about 10,744,000 bushels.

[1] Population as given in Austro-Hungarian data.

WHEAT AND RYE SITUATION 1921.

According to "Zahranicni Obchod" the total 1921 net imports of wheat and wheat flour calculated to a wheat basis amounted to 19,000,000 bushels. During this period Czechoslovakia also imported 3,424,000 bushels of rye as grain and flour. The statistical requirement of the Republic was only 9,674,000 bushels of bread cereals, as indicated in Table 91:

This excess importation of 12,750,000 bushels is due not only to an increased wheat consumption, but to the fact that the foreign exchange value of the Czechoslovak crown nearly doubled during 1921 so that foreign wheat and flour could be bought at about half price of the native product and there was probably a heavy overstocking as indicated in the 1922 situation.

TABLE 91.—*Bread-cereal balance in Czechoslovakia, 1921.*

	Wheat.	Rye.
Area seeded....1,000 acres..	1,557	2,226
Production....1,000 bushels..	40,658	55,764
Seed....do....	4,631	7,091
Net production....do....	36,027	48,673
Estimated food requirement [1]....do....	44,654	49,720
	−8,627	−1,047
		−8,627
Statistical deficit in bread cereals....	....	−9,674

[1] Population as given on p. 68.

WHEAT AND RYE SITUATION, 1922.

Based upon the rate of consumption used in computing the foregoing balance, there is a shortage of 20,300,000 bushels of bread cereals for the crop season 1922–23, as compared with 10,000,000 bushels for the same period 1920–21. The actual import during the calendar year of 1922 was 10,368,000 bushels of wheat and flour calculated to a wheat basis and a net import of 926 bushels of rye as grain and flour. This import of 11,294,000 bushels of bread cereals was 9,006,000 bushels below the estimated statistical deficit indicated in Table 92.

TABLE 92.—*Bread-cereal balance in Czechoslovakia, 1922.*

	Wheat.	Rye.
Area seeded....1,000 acres..	1,527	2,218
Production....1,000 bushels..	33,621	52,041
Seed....do....	4,535	7,075
Net production....do....	29,086	44,966
Estimated food requirement....do....	44,654	49,720
	−15,568	−4,754
		−15,568
Total statistical deficit in bread cereals....do....	....	−20,322

This increased shortage is due chiefly to the great falling off in yield per acre for both wheat and rye (see Tables 89 and 90), although there was also a minor shrinkage in area.

THE WHEAT AND RYE SITUATION IN 1923.

The net importation of wheat and wheat flour (calculated to a wheat basis) during the first four months of 1923 was 2,966,000 bushels, or about 464,000 bushels less than the average for the first four months of the preceding year. This is not strange, as there was still an unconsumed statistical surplus of about 2,700,000 bushels of wheat on hand January 1, 1923.

Before the war Czechoslovakia exported about 2,100,000 bushels of rye yearly. Beginning with 1923, rye exportation is being resumed. During the first four months of the current year net exports of rye as grain and flour amounted to 440,000 bushels (see Table 94), although in Table 92 a statistical deficit of nearly 5,000,000 bushels is indicated.

Estimates received through the International Institute of Agriculture place the bread-cereal acreage and production of Czechoslovakia for 1923 at:

	1000 acres.	1000 bushels.
Wheat	1,483	36,537
Rye	2,127	51,813

Both wheat and rye acreages in 1923 are somewhat below those reported for last season, but the crops are better than last year.

TABLE 93.—*Wheat and flour, international trade of Czechoslovakia, 1920–1922, and January-April, 1923.*

Countries.	1920		1921		1922		Jan.–Apr., 1923.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
Wheat:	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Hungary	(1)	.....	10	1	26	.....	1	.....
Germany	(1)	.....	29	.....	44	.....	77	.....
Netherlands	123	.....	84	.....	37	.....	3	.....
Rumania	6	6	15	.....	(1)	.....	(2)	.....
Yugoslavia	(1)	.....	86	.....	27	.....	(2)	.....
United States	100	.....	2,075	.....	549	.....	29	.....
Bulgaria	15	.....	463	.....	1	.....	(2)	.....
Argentina	317	.....	2,132	.....	433	.....	5	.....
Other countries	92	29	208	3	117	.....	27	.....
Total	653	35	5,102	4	1,234	15	142	.....
Wheat flour:	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*
Germany	(2)	.....	(2)	.....	(2)	.....	251	2
Belgium	719	.....	121	.....	4	.....	(2)	.....
Hungary	5	(1)	310	.....	870	.....	88	.....
Netherlands	5	.....	288	.....	216	.....	70	.....
Rumania	1	.....	126	.....	41	.....	6	.....
Yugoslavia	143	.....	32	.....	32	.....	3	.....
Great Britain	(1)	.....	890	.....	19	.....	19	.....
United States	891	.....	1,257	.....	761	.....	140	.....
Other countries	31	54	67	1	361	.....	185	132
Total	1,795	54	3,091	1	2,304	271	762	134
Wheat, including flour:	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Belgium	3,237	.....	546	.....	16	.....	(2)	.....
Hungary	21	(1)	1,404	1	3,941	.....	395	.....
Germany	(1)	.....	29	.....	44	.....	1,206	8
Netherlands	146	.....	1,380	.....	1,010	.....	319	.....
Rumania	10	6	581	.....	184	.....	25	.....
Yugoslavia	644	.....	231	.....	173	.....	12	.....
United States	4,109	.....	7,733	.....	3,972	.....	659	.....
Bulgaria	15	.....	463	.....	1	.....	(2)	.....
Argentina	317	.....	2,132	.....	433	.....	5	.....
Great Britain	(1)	.....	4,007	.....	84	.....	83	.....
Other countries	230	272	507	8	1,744	.....	865	595
Total	8,729	278	19,013	9	11,602	1,234	3,569	603

[1] Less than 500. [2] Not separately stated.

Source: Aperçu Statistique du Commerce Extérieur de la République Tchécoslovaque.

TABLE 94.—*Rye and flour, international trade of Czechoslovakia, 1920–1922 and January–April, 1923.*

Countries.	1921	1922	January–April, 1923.	
	Imports.	Imports.	Imports.	Exports.
Rye:[1]	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
Austria			[2]	
Belgium	11			
Hungary	12	5	[2]	
Germany	20	21	[2]	
Netherlands	44	7		
Rumania	84	42	[2]	
United States	2,686	140		
Sweden	13			
Argentina	46	21		
Other countries	17	146		[4]
Total imports	2,933	382	[2]	
Total exports	1	158		
Net imports	2,932	224		
Rye flour:[3]	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*	*1,000 barrels.*
Hungary	57	123	119	
Netherlands	10	[2]		
Austria	4	14	17	208
Rumania	3	20	1	
United States	5	1		
Germany	[5]	[5]	[2]	
Other countries	3	6		3
Total imports	82	164	137	[6] 211
Total exports	[2]	47	211	
Net imports	82	117	[6] 74	
Rye, including flour:[4]	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
Belgium	11			
Hungary	357	740	712	
Germany	20	21	1	
Austria	23	87	106	1,251
Netherlands	103	10		
Rumania	103	160	6	
United States	2,716	145		
Sweden	13			
Argentina	46	21		
Other countries	34	181		14
Total imports	3,426	1,365	825	[6] 1,265
Total exports	2	439	1,265	
Net imports	3,424	926	[6] 440	

[1] Total imports of rye in 1920 amounted to 977,000 bushels, exports to 23,000 bushels, net imports to 954,000 bushels.
[2] Less than 500.
[3] Total imports of rye flour in 1920 amounted to 45,000 barrels, exports to 19,000 barrels, net imports to 26,000 barrels.
[4] Total imports of rye, including flour, amounted to 1,247,000 bushels in 1920, exports to 139,000 bushels, net imports to 1,108,000 bushels.
[5] Not separately stated.
[6] Exports.

Source: Aperçu Statistique du Commerce Extérieur de la République Tchécoslovaque

TABLE 95.—*Barley, oats, and corn, international trade of Czechoslovakia, 1920–1922 and January–April, 1923.*

Commodity.	1921		1922		January–April, 1923.	
	Imports.	Exports	Imports.	Exports.	Imports.	Exports.
Barley:	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
Germany						377
Belgium	2	22		44		
Italy		44		39		
Hungary			(1)		1	
Austria	3	23	1	1,791	(1)	1,264
Rumania	42		8		2	
Netherlands		22		76		22
Other countries	2	11	1	4,199	(1)	354
Total [2]	49	122	10	6,149	3	2,017
Oats:						
Hungary	106		205		43	
Poland	49		55		7	
Austria	235	13	88	8	13	50
Rumania	469		886		143	
Yugoslavia	119		53			
Switzerland		237		4		13
Other countries	13	2	53	3	12	1
Total [3]	991	252	1,340	15	218	64
Corn:						
Hungary	505		139		7	
Germany	412		206		99	
Austria	579		213		33	
Rumania	1,446		1,039		107	
Yugoslavia	1,475		83		17	
United States	265		601		5	
Bulgaria	743		28			
Argentina	2,153		1,158		32	
Other countries	189		401		37	
Total [4]	7,767		3,868		337	

[1] Less than 500 bushels.
[2] Total exports of barley in 1920 amounted to 34,000 bushels, imports to 1,000 bushels, net exports to 33,000 bushels.
[3] Total exports of oats in 1920 amounted to 784,000 bushels of oats, imports to 4,000 bushels, net exports to 780,000 bushels.
[4] Total imports of corn in 1920 amounted to 314,000 bushels, exports to 1,000 bushels, net imports to 313,000 bushels.

Source: Aperçu Statistique du Commerce Extérieur de la République Tchécoslovaque.

TABLE 96.—*Potatoes and sugar beets, international trade of Czechoslovakia, 1921–1922 and January–April, 1923.*

Countries.	1921		1922		January–April, 1923.	
	Imports.	Exports.	Imports.	Exports.	Imports.	Exports.
Potatoes:	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
Austria				2,378	(1)	847
Italy	96	65	260		1	
Hungary	34		2		(1)	66
Germany	51		7		18	
Netherlands	31		14			
Poland	60		25		2	
Other countries	11	(1)	11	456	(1)	67
Total	283	65	319	2,834	21	980
Sugar beets:	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*	*1,000 short tons.*
Germany	8	8	19	16	(1)	(1)
Austria	22					(1)
Other countries			(1)	2		(1)
Total	30	8	19	18	(1)	(1)

[1] Less than 500.

Source: Aperçu Statistique du Commerce Extérieur de la République Tchécoslovaque

POST-WAR CHANGES IN AGRICULTURE.

As already stated, Czechoslovakia is made up of two groups of Provinces: (1) Those that were formerly under the Austrian Government—Bohemia, Moravia, and Silesia—occupied chiefly by the Czechs and Germans. (2) Those districts that were formerly under the Hungarian Government—Slovakia and Ruthenia—with Slavic populations, more closely related to the Russians.

The characters of these people differ greatly; the influence of the governments under which they have lived for centuries has been different; their agriculture and agricultural tendencies are not the same, and therefore to get a clear idea of the present conditions of agriculture in Czechoslovakia each district separately must be considered.

FORMER AUSTRIAN TERRITORY (BOHEMIA, MORAVIA, AND SILESIA).

THE COUNTRY OF THE CZECHS.

The influence of the war and post-war conditions on Czech agriculture are brought out in Table 97:

TABLE 97.—*Area, production, and yield in Bohemia, Moravia, and Silesia: 1903–1912, 1914–1922.*

AREA IN THOUSAND ACRES.

Crop.	1903–1912	1914	1915	1916	1917	1918	1919	1920	1921	1922
Wheat	862	895	909	901	897	898	843	864	866	844
Rye	2,043	2,003	2,033	1,960	1,925	1,922	1,850	1,725	1,700	1,695
Barley	1,427	1,288	1,155	1,078	1,059	947	899	917	849	877
Oats	1,812	1,875	1,737	1,609	1,512	1,429	1,375	1,399	1,446	1,445
Corn	27	.....	.....	.....	.....	.....	.....	38	41	40
Potatoes	1,256	.....	.....	.....	.....	.....	.....	966	1,005	1,019
Sugar beets	534	.....	.....	.....	.....	.....	.....	429	451	430

PRODUCTION IN THOUSAND BUSHELS.

Wheat	22,707	23,516	17,269	14,367	10,986	11,537	15,359	15,983	24,140	19,850
Rye	52,989	51,533	32,321	27,794	22,873	25,628	32,715	26,337	43,738	41,038
Barley	35,486	47,491	22,459	25,996	13,779	14,973	21,587	21,495	27,190	25,377
Oats	48,846	95,280	35,963	50,292	21,495	32,793	46,090	45,539	54,426	53,166
Corn	676	.....	.....	.....	.....	.....	.....	773	1,000	936
Potatoes	184,522	.....	.....	.....	.....	.....	.....	105,819	91,678	226,693
Sugar beets [1]	6,807	.....	.....	.....	.....	.....	.....	4,425	4,186	4,881

YIELD, BUSHELS PER ACRE.

Wheat	26.3	26.3	19.0	15.9	12.2	12.8	18.2	18.5	27.9	23.5
Rye	25.9	25.7	15.9	14.2	11.9	13.3	17.7	15.3	25.7	24.2
Barley	24.9	36.9	19.4	24.1	13.0	15.8	24.0	23.4	32.0	28.9
Oats	27.0	50.8	20.7	31.3	14.2	22.9	33.5	32.6	37.6	36.8
Corn	25.0	.....	.....	.....	.....	.....	.....	20.3	24.4	23.4
Potatoes	146.9	.....	.....	.....	.....	.....	.....	109.5	91.2	222.5
Sugar beets [1]	12.7	.....	.....	.....	.....	.....	.....	10.3	9.3	11.4

[1] Short tons.

In the first place, the area seeded to wheat during the war period exceeded the average pre-war area. This was due to the better relative price fixed for wheat by the Austrian Monarchy and also to the activity of the Austrian War Office which encouraged the main-

tenance of wheat production in order to keep up the food supply of the cities, the upper classes, and the army.

Before the war the Czechs imported yearly over 2,000,000 barrels of flour (mostly wheat) from Hungary (Slovakia). They were accustomed to export some rye to the territory that is now Poland, so that as labor became scarce toward the end of the war period, rye was seeded in decreased amounts. Since the war rye has continued to fall off, although wheat has maintained its pre-war level and increased in relative importance as a crop. The barley grown by the Czechs was for the most part a high-grade brewing variety. Large amounts of malt and unmalted grain were exported annually and much malt was used for the domestic manufacture of beer. The post-war increase in the cost of domestic beer has cut down local consumption very greatly, and this, coupled with the high exchange rate of the Czech crown, which has hindered the export of grain and malt, has caused the areas under barley to decrease rapidly.

After the Austrian War Office began to requisition wheat and rye from the Czech peasant, the production of wheat per acre fell from the pre-war average of 26.3 bushels to 12.2 bushels in 1917, and rye from a pre-war average of 25.9 bushels to 11.9 bushels in 1917. The reported yields per acre have been low ever since and are only just beginning to recover now that free trade in grain has again been established. Had the yields in rye been actually as low as reported during the war period, a considerable portion of the Czech nation would have died of starvation. This reluctance of the Czech farmer to make an accurate statement of his yields makes it a little difficult to judge the Czechoslovak statistics even now.

DECREASE IN CEREAL PRODUCTION DUE TO ECONOMIC CONDITIONS.

During the war the manufacture of beer was restricted and the export of barley limited, while the local consumption of oats was greatly reduced as the country was depleted of its horses. Following these initiating causes, the wage of labor has greatly increased, making production costly.

In the meantime the value of the Czechoslovak crown has risen, making its purchasing power greater abroad, so that American and southwestern European products have entered the Czech market in competition with home-grown products to the detriment of the Czech farmers. During the summer of 1922 the value of imported wheat dropped from about 7 to 4 crowns per kilogram. These factors have forced the farmer to decrease cereal production in favor of more remunerative kinds of agriculture. One of these kinds of agriculture is breeding livestock, which means increased area under forage crops.

It was seen in Table 86 that there is a marked tendency to increase the acreage under forage crops as well as meadows and pastures. The increase in the area under clover in Bohemia, Moravia, and Silesia is most striking. During the war the export of clover seed was developed to a very great degree, and this has been continued up to date. The increase in the area under clover is shown in Table 98:

TABLE 98.—*Area seeded to clover for fodder and for seed in Bohemia, Moravia, and Silesia.*

	Acres.		Acres.
1904–1913	1,215,692	1918	1,326,438
1914	1,423,074	1919	1,646,193
1915	1,594,655	1920	1,848,629
1916	1,771,964	1921	1,774,450
1917	1,583,545	1922	1,736,196

The production of clover hay increased from 1,835,000 short tons as the average for the period 1904–1913 to 3,235,000 tons in 1920; the natural meadows yielding 4,747,000 tons of other kinds of hay that same year.

The decrease in cereal production with the increase in forage production signifies an increase in livestock as noted above, but it is impossible to determine just how great this increase is. A livestock census of all Czechoslovakia said to have been taken on December 31, 1920, has been published but it is admittedly faulty. Only the figures for Bohemia, Moravia, and Silesia are the result of an actual enumeration. Those for Slovakia and Ruthenia have been calculated from the Hungarian census of 1911. It is reported by government officials visiting remote districts of the Republic that some of the peasants have two and three times as many head of stock to-day as they had before the war. However, the peasants are very cautious in revealing how many animals they have, having learned a costly lesson during the war from the requisitioning officers of the Austro-Hungarian army who drew largely on the land of the Czechs for their animals for food and draft. The following comparison between the number of animals in Czech territory in 1910 and 1920 does not reveal the real situation, which is much better than indicated.

TABLE 99.—*Livestock in Bohemia, Moravia, and Silesia, 1910, 1918, 1920.*

	Horses.	Cattle.	Swine.	Sheep.	Goats.
	Number.	*Number.*	*Number.*	*Number.*	*Number.*
Dec. 31, 1910	423,167	3,288,291	1,790,545	182,863	649,615
April, 1918	.....	2,511,869	543,393	147,111	752,519
Dec. 31, 1920	385,806	3,043,091	1,437,050	217,357	.....
Increase in 1920 over 1918	.....	531,222	893,657	70,246	.....
Percentage of increase	.....	21.1	164.5	47.8	.....

It was generally reported in 1922 that the Czech peasants had more livestock per farm than before the war and that there is still a strong tendency to increase their number. During the two years and eight months between April, 1918, and December, 1920, there was a yearly average increase of 7.92 per cent for cattle, 61.88 per cent for swine, and 17.9 per cent for sheep. The rapidity with which the Czechs actually do regain their pre-war normal number of live animals and the total number that they will maintain in the future depends largely upon the amount of forage they are able to produce. If the rate of increase over consumption indicated above was maintained during the past two years, the number of animals in Czechoslovakia would be greater to-day than before the war; but there are no data to demonstrate whether this is true or not.

The country requires 5,000,000 swine to satisfy its requirements of lard, fats, and pork, and the number on hand will be increased as

rapidly as the problems surrounding feed and forage supply can be solved. It is the definite aim of the Czechs to export cattle or animal products to western Europe. In any case it is indicative of the general trend toward increased animal husbandry that there has been a falling off in livestock of only 10.6 per cent against a decrease of 18.8 per cent in cereal acreage in 1920, compared with pre-war average, 1903–12 while in 1922 the cereal decrease reached 20.4 per cent.

PRE-WAR WHEAT AND RYE BALANCE IN BOHEMIA, MORAVIA, AND SILESIA, 1909-13.

The average pre-war wheat and rye balance of the Czechs according to "Das Österreichische Ernährungsproblem" Wien, 1921, was:

TABLE 100.—*Pre-war wheat and rye balance in Bohemia, Moravia, and Silesia, 1909–1913.*

Crop.	Area seeded.	Production.	Seed.	Net production.	Food requirement.[1]	Surplus or deficit.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	861,556	22,707,233	2,562,238	20,144,995	33,490,934	−13,345,939
Rye[2]	2,043,211	52,984,057	6,510,467	46,473,590	42,588,880	+3,884,710
Net deficit of bread cereals						−9,461,229

[1] Per capita consumption: Wheat, 198 pounds; rye, 235 pounds. Population (1910), 10,148,768 (see "Das Österreichische Ernährungsproblem," page 60.
[2] Includes maslin.

Slovakia produced a wheat surplus of about a million bushels, most of which was shipped to the Czechs. Thus before the war from 12,000,000 to 13,000,000 bushels of wheat were imported annually into Bohemia, Moravia, and Silesia from territories other than those lying within the present boundaries of the Czechoslovak Republic.

Before the war the Czechs exported some rye to Poland and Bucovina.

POST-WAR WHEAT AND RYE BALANCE IN BOHEMIA, MORAVIA, AND SILESIA.

If we employ the 1921 population and the above per-capita food norm of the Czechs, the relations of production to consumption in Bohemia, Moravia, and Silesia, in 1921 were approximately:

TABLE 101.—*Wheat and rye balance in Bohemia, Moravia, and Silesia, 1921.*

Crop.	Area seeded.	Production.	Seed.	Net production.	Food requirement.	Deficit.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	866,051	24,154,671	2,575,605	21,579,066	32,988,800	−11,409,734
Rye[1]	1,699,808	43,352,046	5,416,254	37,935,792	41,950,044	−4,014,252
Total deficit.						−15,423,986

[1] Includes maslin.

A portion of this 11,000,000 bushels wheat deficit could have been covered by shipments of wheat from Slovakia where there was a surplus of 3,000,000 to 4,000,000 bushels, giving a net deficit for Czechoslovakia of 7,000,000 to 8,000,000 bushels. During the period July 1, 1921 to June 30, 1922, Czechoslovakia actually imported wheat and wheat flour amounting to 10,600,000 bushels of which 600,000 would cover Ruthenia's deficit, while the remainder went to the Czechs.

This indicates that the Czechs imported considerably more wheat (about 2,000,000 to 3,000,000 bushels) than their normal consumption rate would require.

During this same period only 2,058,000 bushels of rye were imported and about 2,000,000 bushels were available in Slovakia, while the statistical requirement rye deficit was about 4,000,000 bushels.

It would seem that not only are the Czechs eating more but they are to a certain extent substituting wheat and rye for other foods.

1922 WHEAT AND RYE SITUATION.

The following preliminary figures indicate the present Czech breadstuffs situation:

TABLE 102.—*Wheat and rye balance in Bohemia, Moravia, and Silesia, 1922.*

Crop.	Area sown.	Production.	Seed.	Net production.	Food requirements.[1]	Deficit.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	844,477	19,849,739	2,508,097	17,341,642	32,988,800	−15,647,158
Rye	1,695,248	41,037,629	5,407,841	35,629,788	41,950,044	−6,320,256
Total deficit						−21,967,414

[1] Same as in Table 101.

This total statistical deficit would indicate that the imports by Czechs during 1922–23 would be about twice what they were from July 1, 1921 to June 30, 1922.

TENDENCIES IN CZECH AGRICULTURE.

Table 103 compares the manner in which the territories of Bohemia, Moravia, and Silesia were utilized in 1922 under the Czechoslovak Republic and the manner in which the same territory was utilized when part of the Austrian Monarchy during the period 1903–1912.

TABLE 103.—*Utilization of Czech land, average 1903–1912 and 1922.*

Item.	Pre-war area (1903–1912).	1922 area.
Plow land:	*1,000 acres.*	*1,000 acres.*
Cereals	6,160	4,913
Leguminous plants	214	309
Fiber plants	150	87
Tubers, roots, etc.	1,944	1,708
Vegetables	65	50
Forage crops	1,442	2,242
Other crops	.....	11
Fallow	145	125
Total	10,120	9,445
Decrease from pre-war	.....	675
Plow land	10,120	9,445
Natural prairies	1,748	1,898
Gardens	256	231
Vineyards	28	14
Pastures	1,041	1,005
Forests	5,709	5,845
Lakes, marshes, etc.	107	153
Unproductive	627	875
Total statistical area	19,636	19,466
Difference	.....	170
		19,636

There are increases in unplowed tilled land, in natural prairies, and in forests; but the most marked increase is in forage crops (see p. 81). There has been a great falling off in cereals as already noted as well as decreases in roots and tubers.

Aside from the factors in the general economic situation that influence these changes in Czech agriculture for the most part, there are certain influences exerted by changes in the size of the farm unit that should be noted. These influences will not greatly modify Czech agriculture, but the facts are given here on account of the light that they throw upon the general question of land reform as affecting all of Central Europe.

LARGE VERSUS SMALL FARMS IN CEREAL PRODUCTION.

The differences between the farming on large and small holdings have been worked out for Czech conditions under the direction of Dr. Vladimer Brdlik. A single comparison (Table 104) will serve to show the general trend of field-crop operations as influenced by the size of the farm.

TABLE 104.—*Per cent of cereals seeded in Bohemia, Moravia, and Silesia on farms of various sizes.*

Crop.	Per cent by size of farms in acres.			
	5 to 12 acres.	12 to 50 acres.	50 to 250 acres.	Above 250 acres.
	Per cent.	*Per cent.*	*Per cent.*	*Per cent.*
Wheat	14	18	20	27
Rye	41	35	31	23
Barley	14	16	22	28
Oats	31	31	27	22

The larger the farm the greater is the percentage seeded to wheat and barley, the two cash crops. The smaller the farm the more rye, the peasant's food, and the more oats, feed for his stock, are seeded.

In Bohemia, Moravia, and Silesia there were—

176,942 farms of from 5 to 12 acres.
103,592 farms of from 12 to 50 acres.
56,341 farms of from 50 to 250 acres.
3,002 farms of more than 250 acres.

The pre-war (1904–13) average number of acres and the relative area in percentages of four cereals seeded were—

Crop.	Acres.	Per cent.
Wheat	861,556	14.0
Rye	2,043,211	33.3
Barley	1,426,990	23.2
Oats	1,811,695	29.5
Total	6,143,452	100.0

The relative wheat acreage on the average was that of farms from 5 to 12 acres; the percentage of rye was similar to that on farms of from 12 to 50 acres; barley to that on farms of from 50 to 250 acres; while oats approximated that on farms between 12 to 250 acres. The agriculture in general was that of farms below 50 acres. That is to say the general type of Czech agriculture is that of small peasant farming.

LARGE VERSUS SMALL FARMS IN ANIMAL PRODUCTION.

The number of animals on the smaller holdings is greater per acre of agricultural land than on the larger farms, as brought out in Table 105.

TABLE 105.—*Value of live stock on large farms and small holdings in Bohemia, Moravia, and Silesia, 1904–1913.*

Species.	Average per acre of agricultural land.			
	5 to 12 acres.	12 to 50 acres.	50 to 250 acres.	Over 250 acres.
	Kroner.	*Kroner.*	*Kroner.*	*Kroner.*
Horned cattle	328	211	171	123
Pigs	44	29	14	2
Sheep and goats	2.7	2.2	3.4	2.9
Fowls	11.0	6.6	3.0	0.3

The small farmer's family has always a horse or an ox, a cow, 1 or 2 calves, 2 or 3 pigs, 1 or 2 sheep, and some chickens. Consequently there is a greater number of livestock per acre on the small farm. When large estates are divided there is always a tendency to increase the number of live animals per acre of plow land.

THE LAND REFORM.

In a table in "La Reforme Agraire en Tchécoslovaque" the areas of the properties seized in the entire Czechoslovak Republic are given as follows:

TABLE 106.—*Czechoslovakia: Total area of land and land expropriated.*

Item.	Area in Republic.	Area expropriated.	
Land under cultivation:	*Acres.*	*Acres.*	*Per cent.*
Plow land	14,751,485	2,463,600	16.7
Meadows	3,418,354	494,200	14.5
Gardens	379,219	55,300	14.6
Vineyards	46,200	3,700	8.0
Total	18,595,258	3,016,800	16.2
Pastures	2,851,448	448,500	15.7
Forests	11,517,660	5,989,000	52.0
Lakes, marshes, etc.	192,733	100,300	52.0
Unproductive	1,558,791	143,100	9.2
Total	34,715,890	9,697,700	27.9

According to the following information furnished by Dr. Vladimer Brdlik of the agricultural section of the Czechoslovak Technical School, the total areas of the agricultural lands expropriated are somewhat higher than the above:

Agricultural lands expropriated.

	Total of large estates.	Amount expropriated from large estates.	Per cent.
	Acres.	*Acres.*	
Czech lands	2,107,269	1,829,405	87
Slovak lands	2,090,861	1,391,297	67
	4,198,130	3,220,702	.....

Forty-three per cent, or 786,569 acres of Czech large estates were rented to small operators; 1,042,836 acres were operated by the owners, totaling 1,829,405 acres.

Twenty-six per cent, or 361,737 acres of large estates in Slovakia were rented to small operators; 1,029,559 acres were operated by the owners, totaling 1,391,296 acres.

The total agricultural land in Bohemia, Moravia, and Silesia is approximated at 12,580,874 acres, of which 10,751,469 acres were owned and operated by the small farmers, and an additional 786,569 acres of large estate lands were rented and operated by them. Only 277,864 acres of large estates are to remain in the possession of the former large owners, while 1,042,836 acres are to be transferred to new operators. This change involves only 8.3 per cent of the total plow land, and will not have a profound influence upon changes in the type of Czech agriculture, except as regards sugar beets and potatoes used for alcohol manufacture.

That the present changes in Czech agriculture are not the result of the land reform is seen by comparing the areas seeded in 1922 with Doctor Brdlik's table on page 82.

Acres seeded for crop of 1922.

Crop.	Acres.	Per cent.
Wheat	844,477	17.4
Rye	1,695,248	34.9
Barley	876,566	18.0
Oats	1,444,742	29.7
	4,861,033	100.0

The ratio of oats seeding has remained constant; barley has decreased toward smaller farming and wheat and rye have risen toward large estate farming. There is no direct correlation between the rates of cereal seeding and the breaking up of the large estates in Bohemia, Moravia, and Silesia. These changes are due to economic influences, such as high cost and scarcity of labor, high cost of fertilizers, high cost of beer, lessening the demand for malting barley, etc. These distributing influences are temporary and only after they are removed with the return of normal economic conditions will the effects of the land reform become apparent.

Doctor Brdlik estimates that, if all other factors remained unchanged, the land reform would result thus:

Wheat production, 0.6 per cent decrease.
Rye production, 2.9 per cent increase.
Barley production, 3.5 per cent decrease.
Oats production, 3.4 per cent increase.
Resulting in a total increase in cereal production of 0.6 per cent.
Alcohol production would decrease 64.4 per cent.
Sugar production would decrease 13 per cent.
Potato production would decrease 0.8 per cent.

A decrease of 0.6 per cent in wheat would mean a loss of 120,000 bushels, which is negligible, being much less than the seasonal differences in production.

The land reform, of itself, will have but little direct effect upon cereal production in Bohemia, Moravia, and Silesia.

FORMER HUNGARIAN TERRITORY (SLOVAKIA).

When the frontier of Moravia is crossed into Slovakia, the agriculture of the west, that is grounded upon science with practice, is

left and the land of farming by "custom and habit" is found, the land where great political and economic changes make but little impression on peasant traditions.

To the west of this line of demarcation in Bohemia, Moravia, and Silesia, that is, in the region of scientific agriculture, the manner in which the Czechs reacted to post-war conditions is brought out in Table 107.

TABLE 107.—*Area of cereals in Bohemia, Moravia, and Silesia, 1903–1912 and 1922.*

Crop.	Average, 1903–1912.		1922	
	Acres.	Per cent.	Acres.	Per cent.
Wheat	861,556	14.0	844,477	17.2
Rye	2,043,211	33.1	1,695,248	34.6
Total bread cereals	2,904,767	47.1	2,539,725	51.8
Barley	1,426,990	23.1	876,566	17.9
Oats	1,811,695	29.4	1,444,742	29.5
Corn	26,909	.4	40,047	.8
Total cereals	6,170,361	100.0	4,901,080	100.0

Decrease below pre-war normal, 1,269,281 acres. Percentage of decrease, 20.6.

In 1922 the Czechs seeded 51.8 per cent of their cereal area to bread grains (wheat and rye) as compared to 47.1 per cent in 1903–1912, an increase of 4.7 per cent, while barley decreased 5.2 per cent. This is due to the relatively higher price that wheat and rye commanded above the price for barley. As the area under cereals decreased 1,269,281 acres, due to shortage in man power, animal power, and high cost of fertilizers, the Czechs exercised a selective judgment as to which cereals to retain, favoring wheat and rye and eliminating barley.

In Slovak territory, on the other hand, 494,000 acres went out of cultivation after 1919, but from Table 108 it will be seen that no marked indication exists that a selective judgment was exercised by the Slovaks as to which cereals to eliminate, such as is found in the cases of wheat and barley in Table 107.

In Slovakia the areas that should be dropped from cultivation were governed by the laws of chance and, since the chances governing the seeding of each crop were about equal, the ratios at which the cereals were seeded in 1922 remained about what they were before the war. In Table 108 note the similarity of percentages from year to year.

TABLE 108.—*Area of cereals, potatoes, and sugar beets in Slovakia, 1911–1915, 1920–1922.*

Crop.	Average, 1911–1915.		1920		1921		1922	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	761,204	25.7	645,732	24.4	634,303	25.0	625,247	24.0
Rye	510,444	17.2	501,744	19.0	479,379	18.9	476,884	18.3
Bread cereals	1,271,648	42.9	1,147,476	43.4	1,113,682	43.9	1,102,131	42.3
Barley	931,261	31.4	781,587	29.6	722,876	28.5	778,926	29.9
Oats	551,797	18.6	502,273	19.0	477,580	18.9	492,119	18.9
Corn	211,609	7.1	212,887	8.0	220,398	8.7	231,765	8.9
Total cereals	2,966,315	100.0	2,644,223	100.0	2,534,536	100.0	2,604,941	100.0
Potatoes	571,918	.....	451,995	.....	492,890	.....	503,362	.....
Sugar beets	165,223	.....	88,524	.....	90,661	.....	88,469	.....

There is a slight decrease in the rate of seeding of both wheat and barley and slight increases in rye, oats, and corn. Potatoes have fallen off somewhat, and there has been a large decrease in sugar beets. Although estate agriculture never played a decisive rôle in Slovakia, since the large estates were often rented out in small plots rather than being operated as a whole, still a very slight effect of the dropping out of the estates is noticeable in the case of wheat and rye as indicated by the following comparison.

The yields obtained from the areas under the principal crops both before the war and during the three crop seasons, 1920, 1921, and 1922, are given in Table 109.

TABLE 109.—*Production of cereals, potatoes, and sugar beets in Slovakia, 1911–1915, 1920–1922.*

Crop.	1911–1915	1920	1921	1922
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
Wheat	13,757	9,833	15,536	12,721
Rye	7,455	6,913	11,311	10,151
Barley	23,842	15,568	19,944	20,732
Oats	15,407	12,406	15,323	16,057
Corn	5,519	6,051	66,657	6,611
Total, five chief cereals	65,980	50,771	68,773	66,272
Potatoes	76,292	68,285	38,374	95,246
Sugar beets.....short tons..	1,693	843	623	895

LARGE ESTATE AGRICULTURE VERSUS SMALL FARMING IN SLOVAKIA.

It is possible to make a comparison between large and small estate operations in the former Hungarian districts that now constitute Slovakia, through the courtesy of the Central Statistical Bureau in Budapest, that prepared the material from which Table 110 was taken.

TABLE 110.—*Slovakia cereal areas seeded, 1914.*

Item.	Large estates.		Peasant holdings.		Both large and small.	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	275,072	35.5	538,349	24.0	813,421	27.0
Rye	114,358	14.7	401,906	17.9	516,264	17.1
Total bread cereals	389,430	50.2	940,255	41.9	1,329,685	44.1
Barley	227,008	29.3	686,429	30.6	913,437	30.2
Oats	99,932	12.9	464,353	20.7	564,285	18.7
Corn	58,624	7.6	152,130	6.8	210,754	7.0
Total cereals	774,994	100.0	2,243,167	100.0	3,018,161	100.0

It will be noted that the total and the relative manner in which the five chief cereals were seeded on both the large and small estates in 1914 are nearly identical with the total and relative seeding for the average of the period 1911–1915, shown in Table 108. On the estates more than one-third of the cereal area was seeded to wheat, the "cash crop." When the territory now constituting Slovakia became a portion of the Czechoslovak Republic, a considerable number of the large landowners, mostly Hungarian nobles, are reported to have abandoned their estates and to have fled to Budapest. This threw nearly 494,000 acres out of cultivation of which all but 49,000 acres had been under cereals. Thus the farming of this

district was brought nearer to the level of peasant farming. That is to say, the difference between the percentage rate of seeding by the peasants in 1914, and the rate of seeding by all classes in 1922 is less than the difference in the percentage rate of seeding by all classes in 1914 and in 1922.

The Slovak peasants continued to seed their cereal areas in 1922 in about the same ratio that they seeded them in 1914 in spite of the very considerable demand for wheat existing in the western districts of the Republic.

HYPOTHETICAL WHEAT AND RYE BALANCE.

In Bohemia, Moravia, and Silesia, Austrian figures are given for the actual amounts of wheat and rye required by the inhabitants of these provinces. The Hungarian Government employed a per capita consumption figure for the entire Kingdom of 292.6 pounds of wheat and 79.2 pounds of rye per year; but the application of this figure to the present territories of Slovakia and Ruthenia does not give results that conform to the facts; that is, it was a fact that before the war part of the Czech food deficit was covered by importation of wheat from Slovakia.

In order to get a rough estimate of Slovak wheat movement, the same wheat consumption norm is employed in the following balance that is used by the Prague Government in making the Czech balance; that is, 198.4 pounds of wheat instead of the norm for all Hungary given above. These people in Slovakia eat some rye, considerable barley, and not a little corn. It is estimated that their average rye consumption is indicated by their average rye production, or about 132 pounds per capita per year, as it is improbable that this district exported wheat and imported rye. Their adjustment to economic variables was scarcely fine enough for that. The following approximate wheat and rye balance is given as indicating the probable average relations that existed between production and consumption before the war.

TABLE 111.—*Average wheat and rye balance, Slovakia, 1911–1915.*

Crop.	Area seeded.	Production.	Seed.	Net production.	Food requirement.[1]	Surplus.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	761,204	13,756,964	2,263,793	11,493,171	10,294,713	+1,198,458
Rye[2]	510,444	9,073,819	1,626,475	7,447,344	7,353,366	+93,978

[1] Population, from Hungarian statistics, 3,119,610. This figure is used because the other data employed here are from Hungarian statistics. The population figure (1910) published by the Czechs is 2,926,824.
[2] Includes maslin.

Before the war a portion of Slovakia's normal wheat surplus (probably most of it) was shipped to the Czechs. The rye surplus is negligible.

TABLE 112.—*Wheat and rye balance, Slovakia, 1922.*

Crop.	Area sown.	Production.	Seed.	Net production.	Food requirement.[1]	Surplus.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	625,247	12,721,332	1,856,984	10,864,348	9,878,481	+985,867
Rye[2]	476,884	10,151,065	1,521,260	8,629,805	7,056,058	+1,573,747

[1] Population of 1921, 2,993,479. [2] Includes maslin.

Little of this wheat will move during the 1922–23 season, though some rye will probably be shipped west to make up the Czech shortage.

Speaking generally, it may be expected that the Slovak wheat and rye situation will be little affected by the segregation of this territory from the old Hungarian Monarchy, or by the ordinary changes attending the establishment of the Czechoslovak Republic. There is one factor (the colonization of Slovak lands by Czechs) that may, however, modify production somewhat (see p. 89).

GENERAL TENDENCIES OF POST-WAR SLOVAK FARMING.

Table 113 shows the manner in which the land in Slovakia was utilized in 1911–1915 as compared with 1922. A comparison of the two columns will show the effect of the changed economic conditions.

TABLE 113.—*Utilization of land in Slovakia, 1911–1915 and 1922.*

Item.	Area.	
	Pre-war (1911–1915).	1922
Plow land:	*Acres.*	*Acres.*
Cereals	3,087,678	2,619,713
Leguminous plants	80,495	143,054
Fiber plants	26,319	46,519
Tubers and roots	753,161	665,697
Vegetables	20,813	27,851
Forage plants	632,536	703,607
Other plants		2,876
Fallow land	214,201	383,065
Total	4,815,203	4,592,382
Plow land	4,815,203	4,592,382
Natural prairies	1,056,528	1,091,969
Gardens	122,102	106,987
Vineyards	23,022	21,750
Pastures	1,383,800	1,502,872
Forests	4,160,848	4,124,593
Lakes, marshes, etc.	35,367	32,140
Unproductive	519,847	619,366
Total statistical area	12,116,717	12,092,059
Difference		24,658

The total area under crops has decreased nearly 400,000 acres. The cereal acreage alone has decreased 468,000 acres, but this has been made up in part by increase in leguminous plants, vegetables, forage plants, and fallow land so that the net decrease in cultivated land is only 223,000 acres.

There are increases in meadows, in pastures, and in idle unproductive land, which are to be expected if estates have been abandoned without the land being taken up by the peasants, but these changes are not great. In this district relatively large quantities of sugar beets and potatoes were grown on the estates; and the areas at present under these crops have been reduced below pre-war—potatoes about 12 per cent, sugar beets about 46 per cent (see Table 108). There is an increase in the area under forage plants, indicating that in Slovakia there has been a tendency to bring livestock production

up to pre-war normal more rapidly than cereal production. But there is no post-war census of livestock for Slovakia.

Employing the data given in the Hungarian Census of 1911 and estimating the number of live animals that were at that time in the territory now comprised within the boundaries of Slovakia, the following approximation of the livestock within Slovak territory in 1911 is obtained: In 1911, horses, 181,555; cattle, 1,095,919; swine, 564,036; sheep, 660,407; total, 2,501,917. The figures published by Czechoslovakia as the 1920 enumeration of livestock in Slovakia are identically the same as the figures for the same territory calculated from the census of 1911.

There is, as noted, a wheat and rye surplus produced in Slovakia. It is probable that the Czech demand for wheat and the local demand for rye will in years to come keep the ratios at which the cereals are seeded about the same as they have been in the past on farms operated by Slovak peasants. That is to say, there are probably no forthcoming factors affecting production strong enough to influence the agricultural habits of the Slovak population, and in the future they will continue to farm in the same way that they have done in the past.

CZECH COLONIZATION IN SLOVAKIA.

The Czech Government, however, is attempting to improve general productivity of these Slovak counties, by colonizing the abandoned estates with more progressive farmers.

It is reported that agencies are locating Czechs in America who have a practical knowledge of agriculture, who have made a success in this country and who have amassed sufficient capital to swing a modernly-equipped farming proposition. These Americanized Czechs are receiving attractive offers of land in Slovakia and thousands are reported to be returning to Czechoslovakia to throw in their fortunes with the Republic.

It is hoped that their example will stimulate the Slovaks to higher endeavors. In any case each such Czech farmer will help increase Slovak production in just so far as he is a better farmer than the natives and the movement must work toward a general improvement in Czechoslovak agriculture.

FORMER HUNGARIAN TERRITORY (RUTHENIA).

In addition to cereal production the principal branches of agriculture in Ruthenia or sub-Carpathian Russia are sugar beet culture in the low lands, potato growing for alcohol in the foothills, and cattle grazing and forage production in the uplands of the Carpathian Mountains. The district is also semi-industrial, with mining, lumbering, and some manufacture as the chief industries. Table 114 gives the contrast of the crop of 1922 with the areas seeded for the average crop years 1911–1915:

TABLE 114.—*Cereal areas seeded in Ruthenia, 1911–1915, 1920, 1922.*

Item.	1911–1915		1920		1921		1922	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	104,150	26.7	55,790	18.6	56,952	19.3	57,312	18.2
Rye	39,971	10.3	44,372	14.8	46,524	15.7	46,129	14.6
Total bread cereals	144,121	37.0	100,162	33.4	103,476	35.0	103,441	32.8
Barley	14,833	3.8	11,871	3.9	11,208	3.8	11,925	3.8
Oats	95,736	24.6	70,339	23.4	79,356	26.8	79,546	25.3
Corn	134,825	34.6	117,914	39.3	101,546	34.4	119,851	38.1
Total cereals	389,515	100.0	300,286	100.0	295,586	100.0	314,763	100.0
Decrease below pre-war average							74,752	
Percentage of decrease								19.2
Potatoes	72,526		76,218		74,350		84,281	
Sugar beets	462		128		331		109	

As in other districts, in Czechoslovakia there has been a decrease in the total area under cereals, though this decrease in the area seeded is not great. There is a marked decrease in wheat, the food of the cities, and a sharp increase in rye, the food of the peasants. Total bread cereals have fallen 4.2 per cent and corn has risen 3.5 per cent. These changes, though relatively great, are without special significance to the agriculture of Czechoslovakia as a whole.

The yields obtained from the areas under the principal crops both before the war and during the crop seasons, 1920, 1921, and 1922, are given in Table 115:

TABLE 115.—*Production in Ruthenia, 1911–1915 and 1920–1922.*

Crop.	1911–1915	1920	1921	1922
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
Wheat	1,296	559	982	1,050
Rye	556	431	715	852
Barley	394	181	227	242
Oats	1,985	1,714	2,573	2,329
Corn	1,931	2,824	2,844	2,337
Five chief cereals	6,162	5,709	7,341	6,810
Potatoes	6,727	9,706	6,377	11,292
Sugar beets	[1] 3.0	[1] 1.0	[1] 1.8	[1] 0.7

[1] Short tons.

A comparison between the manner of utilizing the land under the Republic (1922) and under the former Hungarian Kingdom (1914) is brought out in Table 116:

TABLE 116.—*Utilization of land in Ruthenia, pre-war and 1922.*

Item.	Area.	
	Pre-war.	1922
Plow land:	*Acres.*	*Acres.*
Cereals	376,516	316,656
Leguminous plants	6,640	10,363
Fiber plants	6,415	7,937
Tubers and roots	80,409	86,962
Vegetables	2,669	1,814
Forage crops	28,276	51,918
Other crops	.....	1,095
Fallow	34,174	64,420
Total	535,099	541,165
Plow land	535,099	541,165
Natural prairies	395,755	435,380
Gardens	30,727	23,445
Vineyards	8,446	7,003
Pastures	358,883	475,697
Forests	1,561,704	1,530,016
Lakes, marshes, etc	8,221	8,733
Unproductive	89,870	101,766
Statistical total area	2,988,705	3,123,205
Difference	.....	134,500

In Ruthenia, as in Slovakia, the cereal area has been greatly decreased by the economic changes of the war period, and there has been a corresponding substitution of other crops. With the addition of fallow land the total cultivated area is even greater than before the war. There has been an increase in forage plants, meadows and pastures, and in land classed as unproductive, and there is an increase in the total of the statistically reported area.

It is reported that there have been great increases in livestock in this part of the Republic, but actual statistics demonstrating the fact are lacking. Most of the data relative to this territory are fragmentary and unsatisfactory. Estimating the live animals of Ruthenia in the same manner as given on page 89 for Slovakia, there were, in 1911, 23,326 horses, 273,755 cattle, 51,601 swine, and 107,762 sheep. The figures published by Czechoslovakia as the 1920 enumeration of livestock are identically the same as the figures for the same area calculated from the census of 1911.

RUTHENIAN PRE-WAR WHEAT AND RYE BALANCE.

Certain of the peoples living in the far-eastern end of Czechoslovakia in the Carpathian Mountains consume considerable quantities of corn-meal mush in place of wheat or rye. The average per capita cereal diet of all the Ruthenians is approximated to be:

	Pounds annually.
Wheat	176
Rye	66
Corn	110

Balancing pre-war production against consumption, Table 117 shows:

TABLE 117.—*Wheat and rye balance in Ruthenia, average 1911–1915.*

Crop.	Area seeded.	Production.	Seed.	Net production.	Food requirement.[1]	Deficit.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	104,150	1,296,342	309,739	986,603	1,684,863	−698,260
Rye[2]	39,971	556,181	127,362	428,819	676,954	−248,135

[1] Population from Hungarian statistics 574,385. The Czechs published a 1910 population of 598,345; but the figure calculated from Hungarian data is employed because the other data are from the same source—the Hungarian Ministry of Agriculture.
[2] Includes maslin.

Before the war these small deficits were balanced by shipments from the near-by surplus districts of present Hungarian territory.

TABLE 118.—*Wheat and rye balance in Ruthenia, 1922.*

Crop.	Area sown.	Production.	Seed.	Net production.	Food requirements.[1]	Deficit.
	Acres.	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	57,312	1,050,010	170,217	879,793	1,776,811	−897,018
Rye[2]	46,129	852,184	147,152	705,032	713,897	−8,865

[1] Population of 1921, 605,731. Consumption norms the same as in the previous table.
[2] Includes maslin.

The wheat and rye deficit was probably balanced by shipments from Hungary.

There is little probability of any marked change taking place in the cereal situation in Ruthenia. This district will continue to require from 500,000 to 800,000 bushels of wheat yearly to cover its deficit.

CONCLUSIONS.

The depressed agricultural situation in Czechoslovakia is temporary, due in the first instance to the unstable economic conditions with which the struggling republic has had to contend. To a lesser degree it has been affected by the land reform, especially in Slovakia and Ruthenia. With the improvement of these economic conditions and the settlement of the land question the agriculture of the country is bound to return toward normal except as noted. There will probably be a decrease in beet-sugar production, an increase in livestock production, and a minor decrease in cereal production.

It is probable that, because of the adoption of a higher standard of living, Czechoslovakia will import more wheat than formerly, but this increased importation will be supplied from the surplus producing states to the south—Hungary and Yugoslavia, just as before the partition of the Austro-Hungarian monarchy. These southern states will also probably supply most of the pork and pork products that Czechoslovakia will require, so that the United States will soon relinquish this market. It is even possible that Czechoslovakia may in the near future compete with American producers for the bacon and lard markets of Poland and eastern Germany.

THE AGRICULTURAL SITUATION IN YUGOSLAVIA.

The Kingdom of Yugoslavia (land of the south Slavs), officially known as the Kingdom of the Serbs, Croats, and Slovenes, was created at the close of the World War by uniting the old Kingdom of Serbia and the Principality of Montenegro with several former Austro-Hungarian subject States and Provinces, of which the most important are Bosnia, Herzegovina, Dalmatia, Croatia, Slavonia, and Slovenia.

FIG. 12.

According to the census taken on January 1, 1921, Yugoslavia had a population of 12,017,323 as compared with a total of 12,678,780 for the separate districts included within the present kingdom according to the censuses of Austria, Hungary, Serbia, and Montenegro in 1910. The area of each of these subdivisions, with the total population and density of the population per square mile by districts both in 1910 and 1921 is given in Table 119.

TABLE 119.—*Area and population of Yugoslavia, 1910 and 1921.*

District.	Area.	Population.			
		1910		1921	
	Square miles.	*Number.*	*Per square mile.*	*Number.*	*Per square mile.*
Old Kingdom of Serbia [1]	19,286	2,967,401	154	2,655,078	138
South Serbia [2]	17,595	1,699,807	97	1,474,560	84
Montenegro	3,733	238,423	64	199,857	54
Bosnia and Herzegovina	19,768	1,931,802	98	1,889,929	96
Dalmatia	4,915	621,503	126	621,429	126
Croatia and Slavonia [3]	16,906	2,715,237	161	2,710,883	160
Slovenia [4]	6,254	1,092,798	175	1,085,174	174
Voivodina	7,607	1,411,809	186	1,380,413	181
Total	96,064	12,678,780	132	12,017,323	125
Decrease below pre-war estimates				661,457	

[1] Includes New Serbia.
[2] Includes New Macedonia.
[3] Includes Medjmurje and Ile de Krk and Kastav.
[4] Includes Prekmurje.

Sources: Most of the pre-war totals are as given in "Glavni Statistick: podaci," Dr. Joze Rus, Ljubljani 1920, except for Croatia-Slavonia and Voivodina which are from Hungarian sources: "Magyar Statisztikai Evkonyv," 1911, and "Statisztikai Havi Kozlemenyek," December, 1921. The 1921 figures are from unpublished data furnished by the Bureau of Statistics at Belgrade.

The area of Yugoslavia is 96,064 square miles, or slightly less than that of Oregon. Of this the productive area in 1922 was 17,116 square miles, or 47,434,000 acres, utilized in 1920, 1921, and 1922 as follows:

TABLE 120.—*Utilization of land in Yugoslavia, pre-war and 1920–1922.*

Item.	Area.			
	Pre-war.	1920	1921	1922
	1,000 acres.	*1,000 acres.*	*1,000 acres.*	*1,000* acres.
Cereals	12,623	10,822	11,430	.....
Leguminous plants	170	204	247	.....
Industrial plants (flax, hemp, etc.)	199	198	219	.....
Tubers, roots, etc	498	599	622	.....
Vegetables	208	.....	.....	.....
Forage plants	715	553	574	.....
Other plants (reeds)	143	176	192	.....
Untilled (fallow land)	1,547	2,339	2,197	.....
Total plow land	16,103	14,891	15,481	15,953
Cultivated land	16,103	14,891	15,481	15,953
Meadows	3,868	3,732	3,779	4,093
Pastures	6,468	6,322	6,291	6,895
Vineyards	532	428	424	458
Orchards and gardens	927	533	540	634
Forests	19,037	18,988	18,988	18,988
Marshes	471	547	484	413
Unproductive	14,074	16,039	15,493	14,046
Total	61,480	61,480	61,480	61,480

The figures given in column 1 are a conglomerate of statistics from several sources varying widely in their accuracy.

Accurate pre-war data are obtainable for the former Hungarian and Austrian territories including Bosnia, Herzegovina and Dalmatia. However, Serbian statistics leave much to be desired and the Montenegrin data are fragmentary. South Serbian pre-war figures are approximations and subject to future revision by a commission

that is investigating the lands of southern Yugoslavia that were until recent years in the hands of the Turks.

During the past two years there has been a general increase in cultivated land and a decrease in marsh lands, due no doubt to the fact that the seasons of 1921 and 1922 have been drier than 1920, and therefore low-lying lands were plowed. One million nine hundred thousand acres more productive land are reported in 1922 than in 1920. This is for the most part an increase in meadows and pasture.

However, taking into consideration the fact that a great part of Yugoslavia's records were destroyed during the war and that the entire crop-reporting service of the country has had to be reorganized from the very foundation, it is realized even by Yugoslavian officials that most of the following statistics are "sketchy," to say the least. They should be accepted only in the most general way.

THE CEREAL SITUATION.

The cereal crops for which comparable data have been obtained are wheat, rye, barley, oats, and corn. The acreage harvested for each of these cereals is shown in Table 121 for 1920 and 1921 as compared with the pre-war average:

TABLE 121.—*Area harvested in Yugoslavia, pre-war and 1920–1922.*

Crop.	Pre-war.		1920		1921		1922 [1]	
	1,000 acres.	*Per cent.*	*1,000 acres.*	*Per cent.*	*1,000 acres.*	*Per cent.*	*1,000 acres.*	*Per cent.*
Wheat	3,982	33.4	3,560	33.6	3,699	34.5	3,669	34.1
Rye [2]	732	6.1	578	5.5	461	4.3	487	4.5
Total bread cereals	4,714	39.5	4,138	39.1	4,160	38.8	4,156	38.6
Barley	1,058	8.9	926	8.8	910	8.5	927	8.6
Oats	1,358	11.4	1,029	9.7	1,003	9.4	966	9.0
Corn	4,786	40.2	4,485	42.4	4,646	43.3	4,706	43.8
Total 5 cereals	11,916	100.0	10,578	100.0	10,719	100.0	10,755	100.0
Decrease below pre-war			1,338		1,197		1,161	
Percentage of decrease				11.2		10.0		9.7
Potatoes			504		516		532	
Sugar beets			39		41		48	

[1] Report Consul K. S. Patton, Belgrade, June 11, 1923. [2] Includes maslin.

In 1920 the areas from which cereals were harvested were 11.2 per cent below the pre-war average. The estimated harvested area in 1922 is only 9.7 per cent below pre-war. If this estimate proves to approximate the truth, the territories comprising the Kingdom of Yugoslavia will have recovered from the disrupting influences of the war more rapidly than any other of the States of the Danube Basin.

TABLE 122.—*Production in Yugoslavia, pre-war and 1920–1922.*

Crop.	Pre-war.	1920	1921	1922 [1]
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
Wheat	62,024	43,011	51,809	44,400
Rye [2]	9,004	6,507	5,813	4,561
Total bread cereals	71,028	49,518	57,622	48,961
Barley	20,229	11,699	13,378	11,069
Oats	33,516	22,242	18,907	18,272
Corn	111,897	101,136	73,788	89,136
Total 5 cereals	236,670	184,595	163,695	167,438
Decrease from pre-war		52,993	73,893	70,150
Potatoes		41,078	26,184	31,100
Sugar beets (short tons)		226	208	345

[1] Report Consul K. S. Patton, Belgrade, June 11, 1923. [2] Includes maslin.

TABLE 123.—*Yield per acre in Yugoslavia, pre-war and 1920–1922.*

Crop.	Pre-war.	1920	1921	1922 [2]
	Bushels.	*Bushels.*	*Bushels.*	*Bushels.*
Wheat	15.6	12.1	14.0	12.1
Rye [1]	12.3	11.3	12.6	9.4
Barley	19.1	12.6	14.7	11.9
Oats	24.7	21.6	18.9	18.9
Corn	23.4	22.5	15.9	18.9
Total 5 cereals	19.9	17.5	15.3	15.6
Potatoes		81.5	50.7	58.5
Sugar beets, short tons		5.8	5.1	7.2

[1] Includes maslin. [2] Preliminary estimate.

Thus we have for each 100 inhabitants:

TABLE 124.—*Area and production per 100 inhabitants in Yugoslavia, pre-war and 1922.*

Crop.	Pre-war.[1]		1922 [2]	
	Acres.	*Bushels.*	*Acres.*	*Bushels.*
Wheat	31.4	489.2	30.5	369.5
Rye	5.8	71.0	4.1	38.0
Barley	8.3	159.6	7.7	92.1
Oats	10.7	264.3	8.0	152.0
Corn	37.7	882.6	39.2	741.7
Total 5 cereals	93.9	1,866.7	89.5	1,393.3
Potatoes			4.4	258.8
Sugar beets, short tons			.4	2.9

[1] The pre-war population was estimated to be 12,678,780.
[2] The 1921 population of 12,017,323 is used for 1922 as given in Table 119.

TABLE 125.—*Number of domestic animals in Yugoslavia, January 31, 1921.*

Provinces.	Cattle.	Buffaloes.	Horses.	Mules.	Asses.	Swine.	Sheep.	Goats.	Fowls.
	1,000 head.	*1,000 head.*	*1,000 head.*	*1,000 head.*	*1,000 head.*	*1,000 head.*	*1,000 head.*	*1,000 head.*	*1,000 head.*
North Serbia [1]	1,061	7	70	2	2	746	2,292	289	4,037
1910	958	7	158	.....	1	864	3,809	627	6,722
South Serbia [1]	570	43	72	7	56	79	1,374	430	785
Montenegro	82	.....	10	1	4	10	239	75	87
Bosnia	1,223	1	192	1	6	279	1,571	530	1,762
1911	1,310	.....	.....	.....	.....	527	2,499	1,393	.....
Dalmatia [2]	52	.....	12	4	12	23	273	117	183
Croatia-Slavonia [1]	1,118	.....	343	2	3	977	566	84	3,896
1911	1,135	.....	350	.....	.....	1,164	851	.....	.....
Slovenia [1]	479	.....	58	.....	.....	304	76	24	1,058
Voivodina (Banat and Batchka)	375	1	312	1	1	955	620	4	3,268
1911	383	1	289	.....	.....	727	611	.....	.....
Total, 1921	4,960	52	1,069	18	84	3,373	7,011	1,553	15,076

[1] See notes on Table 119.
[2] In the parts of Dalmatia occupied by the Italians, the enumeration of domestic animals on January 31, 1921, was impossible.

THE WHEAT AND RYE BALANCE.

PRODUCTION, LESS FOOD, AND SEED REQUIREMENTS.

The food requirements of the population of Yugoslavia differ greatly according to locality and religion. In the old Kingdom the Serbs seldom eat wheat or rye bread except on holidays, their diet consisting almost exclusively of corn. In the North the Slovenes

eat almost no corn, their diet being mostly rye and wheat. The Austrian norm for wheat and rye food consumption was 7.52 bushels per capita per year. The wheat consumption was 3.6 bushels, the rye 3.92 bushels. This norm was employed by the Austrian Government before the war in calculating the food requirements of the Slovenes and the Dalmatians. The Hungarian norm was 6.13 bushels of wheat and rye per capita per year. The wheat consumption was estimated at 4.89 bushels, the rye at 1.24. This norm was employed by the Hungarian Government in calculating the food requirements of Croatia-Slavonia. Wheat consumption in Voivodina was 5.14 bushels and rye 0.76 bushel. Based on Hungarian estimates the per capita consumption of wheat and rye in Bosnia-Herzegovina was about 2.77 bushels per year, which may also be considered as the norm for South Serbia. For the old Kingdom of Serbia it was 2.25 bushels. In Montenegro, based upon Hungarian data, the pre-war consumption of wheat and rye was about 4.07 bushels per capita per year.

Naturally the war placed most of these peoples on very short rations even to the point of starvation in some places. Therefore at the present time in certain districts the people consume much less than these pre-war norms and still are better fed than during the time when the country was devastated by hostile forces. This is particularly true of the South—old Serbia, Macedonia, Montenegro, and the territory between. It also applies to certain of the deficient districts which, during the war, were cut off from their usual supplies of food, although not actually invaded, as, for example, Bosnia.

Employing the pre-war norms of Austria and Hungary and the Serbian norm calculated from the statistics of 1905–1909, and estimating the south Serbian norm at 2.77 bushels, the following hypothetical pre-war wheat and rye balance is given in Table 126.

TABLE 126.—*Pre-war wheat and rye balance in Yugoslavia.*

District.	Population in 1910.	Norm per capita food requirement.	Gross production.	Seed.	Net production.	Food requirements. Population × norm.	Surplus (+) or deficit (−).
		Bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Old Kingdom of Serbia [1]	2,967,401	2.25	13,363	3,120	10,243	6,677	+3,566
South Serbia [2]	1,699,807	2.77	7,172	1,780	5,392	4,708	+ 684
Voivodina [3]	1,411,809	5.90	26,070	3,944	22,126	8,330	+13,796
Subtotal and total surplus	6,079,017	.....	46,605	8,844	37,761	19,715	+18,046
Slovenia [4]	1,092,798	7.52	3,286	701	2,585	8,218	−5,633
Montenegro	238,423	4.07	259	71	188	970	−782
Dalmatia	621,503	7.52	1,256	293	963	4,674	−3,711
Croatia-Slavonia [5]	2,715,237	6.13	15,886	3,096	12,790	16,644	−3,854
Bosnia [6]	1,931,802	2.77	3,736	920	2,816	5,351	−2,535
Subtotal and total deficit	6,599,763	.....	24,423	5,081	19,342	35,857	−16,515
Total for country and net surplus	12,678,780	.....	71,028	13,925	57,103	55,572	+1,531

[1] Including New Serbia.
[2] Including New Macedonia.
[3] Banat, Batchka, and Baranya.
[4] Including Prekmurje.
[5] Including Medjmurje and Ile de Krk and Kastav.
[6] Including Herzegovina.

These figures indicate that within the present area of Yugoslavia under pre-war conditions there was an average exportable surplus of 1,500,000 bushels of wheat and rye, or assuming that the export surplus would be in the same proportion as the production of the two cereals, about 1,300,000 bushels of wheat and 200,000 bushels of rye. The actual pre-war exports of the two cereals from the old Kingdom of Serbia averaged (1904–1909) 3,700,000 bushels. The acquisition from Hungary of the highly productive provinces of Banat, Batchka, and Baranya (combined under the name of Voivodina) has not made it possible for Yugoslavia to produce an exportable surplus greater than the pre-war surplus of the old Kingdom of Serbia. The explanation is that at the same time that Yugoslavia acquired the surplus-producing Voivodina, she also acquired those large deficient districts to the west which formerly drew their food supplies from Hungary through the agency of merchants (usually banks) in Vienna and Budapest. These western districts must now be supplied directly from the newly acquired surplus districts in the East.

There are many sources of error in Table 126 and the final figure for the surplus may be too low. It is certain that other things being equal in good years, the exportable surplus probably will rise to two and even more times the amount indicated. However, the splitting up of the large estates in Voivodina and Croatia which may permanently reduce the production of wheat will tend to partially offset any possible underestimate of the surplus.

Table 127 corresponding to Table 126 gives the hypothetical wheat and rye balance for Yugoslavia in 1921:

TABLE 127.—*Wheat and rye balance in Yugoslavia, 1921.*

District.	Population 1921.	Norm per capita food requirement.	Production of wheat and rye.			Food requirement. Population × norm.	Surplus (+) or deficit (−).
			Gross.	Seed.	Net.		
		Bushels.	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*	*1,000 bushels.*
Old Kingdom [1]	2,655,078	2.25	11,124	3,056	8,068	5,974	+2,094
South Serbia [2]	1,474,560	2.77	6,011	1,545	4,466	4,084	+382
Voivodina [3]	1,380,413	4.03	13,611	3,750	9,861	5,563	+4,298
Subtotal and total surplus	5,510,051	.....	30,746	8,351	22,395	15,621	+6,774
Slovenia	1,085,174	6.13	3,554	610	2,944	6,652	−3,708
Montenegro	199,857	2.77	175	47	128	554	−426
Dalmatia	621,429	6.13	589	199	390	3,809	−3,419
Croatia [4]	2,710,883	6.13	18,712	2,984	15,728	16,618	−890
Bosnia [5]	1,889,929	2.77	3,846	985	2,861	5,235	−2,374
Subtotal and total deficit	6,507,272	.....	26,876	4,825	22,051	32,868	−10,817
Total for country and net deficit	12,017,323	.....	57,622	13,176	44,446	48,489	−4,043
Less one-half of estimated deficit in Dalmatia	.....	.....	.....	.....	.....	.....	−1,709
Deficit, theoretical	.....	.....	.....	.....	.....	.....	−2,334

[1] Including New Serbia.
[2] Including New Macedonia.
[3] Banat, Batchka, and Baranya.
[4] Including Slavonia and Medjmurje.
[5] Including Herzegovina.

SUMMARY OF WHEAT AND RYE BALANCE.

Referring again to Tables 126 and 127 it will be seen that in 1921 Yugoslavia had a statistical deficit of 4,000,000 bushels; whereas the pre-war annual surplus was 1,500,000 bushels in Yugoslavian territory as a whole. However, by correcting the foregoing table so as to include only half of the estimated deficit in Dalmatia, to allow for the districts occupied by the Italians, who must supply the food requirements of the populations, the theoretical deficit to be supplied by Yugoslavia is reduced to 2,334,000 bushels of wheat and rye.

Although there was this theoretical deficit in 1921, the International Institute of Agriculture at Rome reported exports from Yugoslavia in that year as given in Table 128. The 1920 exports are shown for comparison.

TABLE 128.—*Cereal exports from Yugoslavia, calendar years 1920, 1921.*

Cereal.	1920	1921
	1,000 bushels.	*1,000 bushels.*
Wheat	1,527	1,730
Wheat flour (in terms of wheat)	1,336	1,469
Rye	18	62
Barley	295	1,124
Oats	88	891
Corn	5,003	12,988

These figures are somewhat lower than those furnished by K. S. Patton, United States Consul at Belgrade as indicated in Table 129.

TABLE 129.—*Wheat, flour, and corn exports from Yugoslavia, by months, 1921, 1922.*

Month.	1921		1922		1921	1922
	Wheat.	Flour in terms of wheat.	Wheat.	Flour in terms of wheat.	Corn.	Corn
	1,000 bush.	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*	*1,000 bush.*
January	540	313	380	150	621	2
February	158	167	54	39	576	8
March	277	127	125	89	2,478	2
April	214	19	91	257	2,869	110
May	278	46	154	291	2,334	75
June	171	89	232	109	2,434	12
First half year	1,638	761	1,036	935	11,312	209
July	42	57	56	85	1,361	.....
August	71	55	.....	.....	245	.....
September	83	22	.....	.....	1	.....
October	335	82	.....	.....	44	.....
November	749	525	0	2	11	.....
December	306	107	4	4	11	.....
Second half year	1,586	848	.....	.....	1,673	.....

Second half of 1921 plus first half of 1922: Wheat 2,622,000 bushels, flour 1,783,000 bushels, total wheat export for fiscal year 1921–1922: 4,405,000 bushels.

The exportation of over 4,000,000 bushels in the face of a theoretical deficit of 2,300,000 bushels needs some explanation. In the first place the people in the deficient districts, particularly in Montenegro, Bosnia, Herzegovina, Dalmatia,[1] Slovenia, and the mountain sections of old and south Serbia, are not eating as much wheat as formerly. They are still subsisting on a reduced ration more nearly approximating their war allowance. They are also substituting corn meal and potatoes for the bread cereals. However, the chief expla-

[1] The American Consul at Belgrade states that buyers from Dalmatia have approached agents of American companies in Belgrade, inquiring how they could import flour from America, since they were unable to obtain supplies from the surplus districts of Yugoslavia.

nation of this exportation is that the grain movement of Yugoslavia is still following established routes which were in operation before the war. These routes are from Voivodina and north Serbia up the Danube to Austria and Czechoslovakia, or down the river to the Black Sea and thence to western Europe. The grain of the Voivodina district was concentrated before the war, largely by local banks which had commercial sections especially organized for this business. These banks were affiliated with central banks in Vienna and Budapest. The selling of grain in the northern part of the Austro-Hungarian Empire was done by branches of these same banks in Prague and other cities of the districts now comprised in Czechoslovakia, Austria, and Poland. These northern banks sold grain, then placed their orders with the central bank in Vienna or Budapest, which in turn ordered their southern branches to concentrate grain for shipment.

When the Empire was partitioned, the official association of these northern and southern banks was broken off and the branch banks reorganized under the laws of the respective countries in which they found themselves; but, although the official affiliation was ended, the commercial association continued.

The northern banks still sell grain, the southern banks still concentrate grain and ship it north, and the transactions are cleared in Vienna and Budapest, quite as before the war. The trade routes to the west, especially to the Adriatic coast, have not yet been established, and the peoples of the western districts are deprived of their natural supply of grain.

In the following tables the comparisons are between the areas seeded for the crops of 1921 and 1922, whereas elsewhere in this report comparisons are made between areas harvested in 1920 and 1921. The pre-war averages are probably in each case for areas harvested. The whole kingdom is subject to disasters of one sort or another—the lowlands to floods, the upland plateaus to droughts and torrential rains, the entire country to hail storms, to insect pests and plant diseases. For these reasons there is considerable difference between the areas seeded and the areas harvested.

TABLE 130.—*Wheat areas seeded in Yugoslavia.*

District[1]	Pre-war.	For crop of 1921.			For crop of 1922.		
		Autumn seeding, 1920.	Spring seeding, 1921.	Total.	Autumn seeding, 1921.	Spring seeding, 1922.	Total.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Old Serbia	924,315	889,661	35,847	925,508	758,888	67,271	826,159
South Serbia	391,060	341,883	19,961	361,844	333,160	28,560	361,720
Croatia	840,130	828,059	22,528	850,587	857,210	24,278	881,488
Voivodina	1,328,244	1,206,021	10,247	1,216,268	1,174,286	26,375	1,200,661
Slovenia	141,262	122,596	5,199	127,795	134,158	5,854	140,012
Dalmatia	79,724	39,462	489	39,951	44,945	1,448	46,393
Montenegro	15,318	10,749	1,058	11,807	6,494	1,221	7,715
Subtotal	3,720,053	3,438,431	95,329	3,533,760	3,309,141	155,007	3,464,148
Bosnia[2]	261,840	243,861	37,527	281,388	.....	.....	[3] 284,202
Total	3,981,893	3,682,292	132,856	3,815,148	.....	.....	3,748,350
Decrease from pre-war average	.....	.....	.....	166,745	.....	.....	233,543

[1] In this and subsequent tables, old Serbia includes New Serbia, South Serbia includes New Macedonia, Croatia includes Slavonia and Medjmurje, and Bosnia includes Herzegovina.

[2] At the time of writing this report, September 7, 1922, the Central Bureau of Statistics of the Department of Agriculture at Belgrade had not received a report of the area seeded in Bosnia and Herzegovina for the 1922 crops. The figures for these districts in the following tables are therefore only estimates based on incomplete data. For this reason sub-totals are inserted for the districts reporting officially and the Bosnian estimate added at the end of each table in order to give a national total.

[3] Estimates based on information furnished by the Yugoslavian Department of Agriculture.

The decrease in the autumn seeding of wheat in 1921 below that of the autumn of 1920 amounting to some 130,000 acres was due to an early fall of snow in the southern districts particularly in old Serbia. It will be noted that in these districts there was a larger seeding of spring wheat than in the preceding year, but not enough to compensate for the decrease in winter wheat acreage.

The statistics of rye production for Yugoslavia are complicated by the fact that in some parts of the country wheat and rye are sown together. This crop is known as maslin and is used entirely for home consumption. In the pre-war averages, maslin is included with rye, but in some of the recent figures it is not certain whether it is included or not.

TABLE 131.—*Rye areas seeded in Yugoslavia.*

District.	Pre-war average total.	For crop of 1921.			For crop of 1922.		
		Autumn seeding, 1920.	Spring seeding, 1921.	Total.	Autumn seeding, 1921.	Spring seeding, 1922.	Total.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Old Serbia	117,627	56,709	28,730	85,439	54,656	38,083	92,739
South Serbia	203,240	126,414	20,700	147,114	133,071	23,153	156,224
Croatia	193,511	95,470	6,746	102,216	95,188	8,562	103,750
Voivodina	53,186	29,103	1,379	30,482	21,653	1,656	23,309
Slovenia	92,660	66,378	5,735	72,113	64,513	6,506	71,019
Dalmatia	18,137	5,127	185	5,312	6,321	378	6,699
Montenegro	8,490	2,585	996	3,581	2,560	1,371	3,931
Subtotal	686,851	381,786	64,471	446,257	377,962	79,709	457,671
Bosnia	45,410	22,096	6,402	28,498	.....	.....	[1] 30,976
Total for rye	732,261	403,882	70,873	474,755	.....	.....	488,647
Maslin	.....	.....	.....	102,079	.....	.....	111,610
Total	732,261	.....	.....	576,834	.....	.....	600,257
Decrease from pre-war average	.....	.....	.....	155,427	.....	.....	132,004

[1] Estimated.

TABLE 132.—*Barley areas seeded in Yugoslavia.*

District.	Pre-war average total.	For crop of 1921.			For crop of 1922.		
		Autumn seeding, 1920.	Spring seeding, 1921.	Total.	Autumn seeding, 1921.	Spring seeding, 1922.	Total.
	Acres.	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*	*Acres.*
Old Serbia	264,792	112,445	48,864	161,309	93,856	63,865	157,721
South Serbia	190,267	137,385	65,432	202,817	154,393	76,018	230,411
Croatia	161,171	94,721	59,353	154,074	91,491	60,782	152,273
Voivodina	115,210	78,835	33,334	112,169	63,608	44,562	108,170
Slovenia	44,631	34,339	15,103	49,442	37,972	10,136	48,108
Dalmatia	53,000	45,069	9,489	54,558	45,990	10,504	56,494
Montenegro	8,154	1,856	4,581	6,437	492	4,566	5,058
Subtotal	837,225	504,650	236,156	740,806	487,802	270,433	758,235
Bosnia	220,907	44,384	151,808	196,192	.....	.....	[1] 200,116
Total	1,058,132	549,034	387,964	936,998	.....	.....	958,351
Decrease from pre-war average	.....	.....	.....	121,134	.....	.....	99,781

[1] Estimated.

TABLE 133.—*Oats areas seeded in Yugoslavia.*

District.	Pre-war average.	1921	1922
	Acres.	*Acres.*	*Acres.*
Old Serbia	255,084	188,031	195,639
South Serbia	148,260	98,017	96,806
Croatia	255,380	254,330	243,228
Voivodina	270,200	218,132	186,570
Slovenia	72,482	63,411	55,921
Dalmatia	9,998	3,580	3,808
Montenegro	2,224	1,124	1,534
Subtotal	1,013,628	826,825	783,506
Bosnia	243,836	211,960	[1] 201,362
Total	1,257,464	1,038,785	984,868
Decrease from pre-war average		218,679	272,596

[1] Estimated.

The seeding of oats is 54,000 acres below the 1921 seeding and 273,000 acres below the average pre-war seeding. This decrease in oats is attributable chiefly to the lessening influence of the great landlords on the character of the crops sown; oats being demanded by the landlords for feeding horses and for export. It will be noted that in old Serbia where the feudal system had been abolished before the war, there is an increase in the acreage in oats in 1922 over that of 1921.

TABLE 134.—*Corn areas seeded in Yugoslavia.*

District.	Pre-war average.	1921	1922
	Acres.	*Acres.*	*Acres.*
Old Serbia	1,384,736	1,248,821	1,322,526
South Serbia	301,709	243,752	261,647
Croatia	1,055,273	1,146,771	1,183,906
Voivodina	1,201,141	1,390,728	1,469,101
Slovenia	86,764	95,015	82,571
Dalmatia	100,822	78,180	92,700
Montenegro	34,594	24,569	15,407
Subtotal	4,165,039	4,227,836	4,427,858
Bosnia	621,227	599,783	[1] 629,771
Total	4,786,266	4,827,619	5,057,629
Increase over pre-war average		41,353	271,363

[1] Estimated.

There has been a steady increase in the areas planted to corn since 1920, except in Slovenia, where corn does not thrive particularly well, and in Montenegro, where there has been a general slump in cereal cultivation. This increase is particularly noticeable in Croatia and Voivodina, the great wheat-growing districts. In 1922 a sharp increase in corn planting was to be expected to counterbalance the shortage of the fall seeding of wheat in 1921; nevertheless there is an indication of permanency in this increase of corn area at the expense of the other cereals. In Croatia and Voivodina the large estates are being broken up and divided among the peasants, who are greatly increasing the numbers of their livestock, especially swine, thereby increasing the demand for corn for stock feeding.

This seems to be the general tendency throughout the upper Danube Basin, including Austria and Hungary.

THE ORIGINAL KINGDOM OF SERBIA.

In the old Kingdom of Serbia before the war, the peasants were in actual possession of the land; that is, there were no large estates. So any recent changes in agricultural conditions are almost entirely due to the disturbing factor of the war. Recent statistics show that there has been practically no change in the acreage planted to corn; there is a slight decrease in the seeding of oats, barley, and rye, and a slight decrease, although proportionately an increase, in the wheat acreage. Table 135 shows the areas harvested for each of the five principal cereals for 1905–1909 and for 1920 and 1921.

TABLE 135.—*Cereal acreage in Old Serbia.*

Crop.	1905–1909		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	924,315	31.4	817,642	34.4	902,550	35.6
Rye	117,627	4.0	88,724	3.7	87,224	3.4
Barley	264,792	9.0	150,682	6.3	157,566	6.2
Oats	255,084	8.6	167,709	7.1	180,324	7.1
Corn	1,384,736	47.0	1,152,929	48.5	1,211,573	47.7
Total	2,946,554	100.0	2,377,686	100.0	2,539,237	100.0
Decrease from pre-war average			568,868		407,317	

This decrease in production is due to lack of man power, a scarcity of draft animals, and a shortage of farm implements. Using the pre-war norm there was in 1921 a surplus of about 2,000,000 bushels of wheat and rye and it seems to be only a question of time before the sturdy Serbs, even with their reduced population, will recover their pre-war position in cereal production.

SOUTH SERBIA.

This territory was liberated from the Turks in 1913. The population is of Serbian blood and speech, but largely Mohammedan in religion. Under Turkish rule the land was held under a system of feudal tenure. Bondage was hereditary and it was almost impossible for any individual to escape from its conditions. The serf was obliged to pay to his "beg" or lord, a third, a fourth, or a fifth of his crops, but his occupancy of the land was secure since the "beg" seldom engaged in agriculture himself, and was content to collect his dues.

In 1919 an agreement was made with the feudal lords of Serbian blood by which the serfs were to continue to pay their dues, as before, but were to be reimbursed by the State. However, most of the serfs, having awakened to the strength of their position, refused to pay any dues whatsoever, and have simply remained in possession of the land which they were accustomed to cultivate.

In Table 136 the column headed "pre-war average" is an approximation based upon the assumption that the agricultural practice of south Serbia closely approached that of old Serbia. It is improbable that there have been any marked changes in the agriculture of this district, since the land reform produced no changes in the relative amounts of land operated by the peasants.

TABLE 136.—*Cereal acreage in South Serbia.*

Crop.	Pre-war average.		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	391,060	31.7	338,268	33.5	349,031	34.2
Rye	203,240	16.5	135,149	13.4	139,646	13.7
Barley	190,267	15.4	189,511	18.8	197,191	19.4
Oats	148,260	12.0	102,302	10.1	94,115	9.2
Corn	301,709	24.4	244,083	24.2	239,077	23.5
Total	1,234,536	100.0	1,009,313	100.0	1,019,060	100.0
Decrease from pre-war average			225,223		215,476	

It will be noted that corn is produced much less extensively than in the old Kingdom and that rye occupies a much more important place in the agriculture of this district than in any other part of Yugoslavia. Wheat and rye form a greater part of the diet than in old Serbia, and in the absence of accurate data it has been assumed that the Mohammedans of south Serbia consume about the same amounts of wheat and rye as the Mohammedans of Bosnia, thus giving a per capita consumption of 2.77 bushels per year.

On the basis of the actual net production and the use of this norm, the theoretical surplus for export was about 382,000 bushels in 1921. Such a small surplus scattered through Macedonia and the mountains of the western part of the district is difficult to collect for export, and the greater part necessarily remained in the country. It may be noted, however, that in 1921 the exports to Greece were: Wheat and flour in terms of wheat 92,000 bushels, oats 200,000 bushels, and corn 118,000 bushels. The diminished production of cereals is accounted for as in old Serbia by the shortage of labor, animals, and machinery. It is, however, probable that this district will soon recover and have an appreciable surplus of wheat and rye either for export or for shipment to the deficient areas of Yugoslavia. This surplus will probably amount to—from 740,000 to 920,000 bushels.

MONTENEGRO.

The political, social, and economic conditions in Montenegro were much the same as in south Serbia and Bosnia. The land was held by the feudal lords of the old Turkish regime. The greater number of these lords were of Serbian blood, descendants of the Serbian nobles who, when the Turks conquered the country, gave their allegiance to the Sultan in order to hold their estate. After a time the Serbian tribemen were reduced to serfdom. In return for the privilege of working their land holding, the serf paid dues to the "beg" or lord. In 1919 some of the lords refused to take dues, leaving the peasants in full possession of the land. The rest of the peasants refused to pay dues and retained the plots of land which they had been holding from the lord under the old regime.

Thus the land reform was simply and effectually accomplished, without greatly affecting the agricultural customs and habits of the country, as far as concerned the character of the crops cultivated and the ratios in which they were seeded, although the total area cultivated has decreased.

Hungarian records show that in 1912, the last normal pre-war year, Montenegro imported cereals as follows: Oats, 584,764 bushels; corn, 308,173 bushels; rice, 296,200 bushels; flour, 62,543 barrels, equivalent to 272,094 bushels of wheat. The domestic production in 1913 was estimated at 250,000 bushels of wheat, 200,000 bushels of oats and 1,550,000 bushels of corn. Aside from the annual deficit of some 800,000 bushels of wheat and rye as indicated in Table 126, there was a corn deficit of about 2,500,000 bushels.

The census of 1921 shows that the population of Montenegro had been reduced to 200,000. The Montenegrins have suffered great privations and have been on short rations during and since the war period. It is estimated that their wheat and rye consumption can not have exceeded that of south Serbia, Bosnia and Herzegovina and was probably lower, but for the purposes of the comparison in Table 127 it is placed at 2.77 bushels per capita per year for the post-war period.

The Montenegrins are corn eaters to a greater extent than are the Bosnians and it is probable that they have substituted corn for wheat and rye to a considerable extent in recent years. Even so, they do not produce enough corn for their requirements and were on short rations last year even as regards corn. In a deficient district, in time of a bad harvest, the theoretical deficit is never imported. The population, especially the proletariat, eat other coarser foods, going short on the more expensive bread cereals.

In Table 137 the areas in the column headed "pre-war average" are purely hypothetical, estimated from data collected by the Yugoslavian Government in 1920 and 1921.

TABLE 137.—*Cereal acreage in Montenegro.*

Cereal crop.	Pre-war average.		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	15,300	22.2	13,250	23.3	11,211	24.4
Rye	8,500	12.4	5,908	10.4	3,412	7.4
Barley	8,200	11.9	8,295	14.6	6,170	13.4
Oats	2,200	3.2	1,517	2.6	1,102	2.4
Corn	34,600	50.3	27,922	49.1	24,092	52.4
Total	68,800	100.0	56,892	100.0	45,987	100.0
Decrease from pre-war average			11,908		22,813	

The most significant feature of this table is the indication that the mountaineers of Montenegro harvested far smaller acreages of all important cereals in 1921 than in 1920. This decrease has little effect on the situation in Yugoslavia as a whole, but it is serious for the little mountain district where the impoverished people can ill afford to buy grain from the outside. It is impossible to foresee what will be the future tendencies of Montenegrin agriculture.

BOSNIA AND HERZEGOVINA.

During the war these two districts were cut off from their normal grain supply which in pre-war years came from Hungary [2] through Austrian merchants. An effort was undoubtedly made during the war to supply their own requirements.

[2] Probably from the districts now annexed to Yugoslavia as Voivodina.

The seeding of wheat and rye in particular was increased because of the high prices which bread cereals brought in the cities. This condition continued through 1920, to the extent that in that year the areas of wheat and rye harvested were 6.4 per cent above the pre-war average. The corn area, however, was correspondingly decreased. But in 1921, probably as the result of the reform in land tenure, the harvest of bread cereals was much reduced, and that of corn increased. These changes will be noted in Table 138;

TABLE 138.—*Cereal acreage in Bosnia and Herzegovina.*

Cereal crop.	Pre-war average.		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	261,840	18.8	331,794	24.2	266,396	21.8
Rye	45,410	3.3	58,607	4.3	26,912	2.2
Barley	220,907	15.8	225,563	16.4	186,837	15.3
Oats	243,836	17.5	232,200	17.0	203,712	16.7
Corn	621,227	44.6	521,391	38.1	537,472	44.0
Total	1,393,220	100.0	1,369,555	100.0	1,221,329	100.0
Decrease from pre-war average			23,665		171,891	

Previous to the World War about one-third of the arable land and a large part of the meadow and forest land in Bosnia and Herzegovina was still held in feudal tenure. The official measures of land reform began with an order of July 21, 1919, which directed the registration of the serfs in the land books. A second order of May 12, 1921, set aside the sum of 255,000,000 dinars ($49,215,000, normal exchange) for the compensation of the feudal lords. By these measures, 111,000 families of 650,000 persons were freed from serfdom and placed in possession of 1,915,601 acres of land.

Aside from these hereditary serfs or bondmen, there were under the old regime bondmen of another kind, who held land from the lords under contract. About 546,000 acres were so held. These quasi-serfs were also freed, and, where they were bound by contracts running only 10 years, were permitted to buy directly the lands they had been cultivating. In other cases where the contracts ran for 40 years or more the State bought the lands on behalf of the peasants. Still other large estates were dealt with on the same terms as in other districts of Yugoslavia.

The imports and exports of these two districts were in 1913:

TABLE 139.—*Food imports and exports in Bosnia and Herzegovina, 1913.*

Foodstuffs.	Imports.	Exports.	Foodstuffs.	Imports.	Exports.
	1,000 bushels.	*1,000 bushels.*		*1,000 bushels.*	*1,000 bushels.*
Wheat	590	110	Barley malt (in terms of barley)	110	
Wheat flour (in terms of wheat)	2,910	29	Oats	500	143
Rye	375	8	Corn	865	870
Rye flour (in terms of rye)	368		Potatoes	200	188
Barley	113	55	Rice	263	2

DALMATIA.

The Dalmatian coast is only 10.69 per cent under cultivation. The islands and the mainland are, to a large extent, planted to vineyards and olive orchards, and there is much meadowland. The agricul-

tural lands have long since passed almost entirely into the hands of small owners. Only a few large estates remained under feudal tenure when on March 11, 1921, an official order directed the completion of the land reform. Table 140 shows the acreage of cereals harvested in Dalmatia in the specified years.

TABLE 140.—*Cereal acreage in Dalmatia.*

Cereal crop.	1909–1913		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	79,724	30.5	41,785	22.9	39,951	22.0
Rye	18,137	6.9	10,294	5.6	5,313	2.9
Barley	53,000	20.3	47,767	26.2	54,557	30.0
Oats	9,998	3.8	2,785	1.5	3,580	2.0
Corn	100,822	38.5	79,887	43.8	78,180	43.1
Total	261,681	100.0	182,518	100.0	181,581	100.0
Decrease from pre-war average			79,163		80,100	

The fact that there has been a decrease of 30 per cent in the areas harvested as compared with the pre-war average may be attributed to the fact that a part of the coast and islands was occupied in 1920 and 1921 by Italian military forces. The increase in the barley area harvested is explained by the fact that it brought a better price than wheat. Since corn plays a large part in the customary diet of the Dalmatians, its production has remained nearer the pre-war level than has the production of the locally less considered crops of wheat and rye.

The Austrian Government before the war included Dalmatia in the district of the south, and in this district calculated the wheat and rye norm at 7.52 bushels per capita per year. It is hardly probable that Dalmatia consumed so much as this of the bread cereals, because of the extensive use of corn. Therefore, for the 1921 wheat and rye balance it has been thought better to employ the Hungarian norm of 6.13 bushels.

The theoretical deficit as shown by Table 127 was, in 1921, 3,400,000 bushels of wheat and rye. Of this less than half should be charged to the 1921 harvest of Yugoslavia. The first, second, and third zones of Dalmatia were occupied by the Italians, and the deficits of this area were supplied from Italian sources. During this occupation other sections of the coast were inaccessible from the central districts of Yugoslavia, and the inhabitants were obliged to shift for themselves, in some cases importing their own grain and flour. Through the entire district, just as in the mountains of Montenegro, the people were reduced to short rations and the use of substitutes in the place of their customary foods.

SLOVENIA.

Slovenia is composed of parts of two former Austrian Provinces of Steiermark and Krain, and parts of the two Hungarian counties of Vas and Zala. None of these regions is well adapted to grain culture. The greater part of the district is in forest, and there are also extensive vineyards, orchards, and pasture lands. Under the old régime there were 230 large estates in Slovenia, aggregating about 469,500 acres, of which about 70 per cent was in forests, 5 per cent meadows, and only 6 per cent cultivated land. These lands were leased to the

cultivators, and therefore the land reform can not be considered as accounting for such changes in the character of the cereal crops as are indicated in Table 141.

TABLE 141.—*Cereal acreage in Slovenia.*

Cereal crop.	1913		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	141,262	32.3	120,150	30.3	127,795	31.3
Rye	92,660	21.2	69,529	17.6	72,114	17.7
Barley	44,631	10.2	45,741	11.6	49,440	12.1
Oats	72,482	16.5	60,339	15.2	63,411	15.6
Corn	86,764	19.8	100,216	25.3	95,015	23.3
Total	437,799	100.0	395,975	100.0	407,775	100.0
Decrease from pre-war average			41,824		30,024	

The Slovenians use very little corn as food, but use relatively large quantities of wheat and rye. The increase in the corn acreage, indicated in Table 141, is probably due to the increased numbers of swine in accordance with the tendency throughout this district and north through Austria to turn to meat rather than grain production. It is probable, however, that as soon as the district recovers from the effects of the war the production of cereals will return approximately to its pre-war normal.

CROATIA-SLAVONIA.

Count Paul Tleki, in "The Economics of Hungary in Maps," prepared for the peace negotiations, places the average yearly pre-war wheat and rye deficit of Croatia-Slavonia at 4,200,000 bushels. Since the war a small area called Medjmurje, occupied by Croats, has been ceded by Hungary to Yugoslavia and added to the district of Croatia-Slavonia. The addition of this area, together with an unusually good harvest in 1921 has cut this large deficit to less than 900,000 bushels. As indicated in Table 142 there was a slight increase in the wheat area with a heavy reduction in the rye area.

TABLE 142.—*Cereal acreage in Croatia-Slavonia.*

Cereal crop.	1910–1914		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	840,130	33.5	783,581	32.2	842.959	34.0
Rye	193,511	7.7	103,510	4.3	101,857	4.1
Barley	161,171	6.5	152,505	6.3	153,259	6.2
Oats	255,380	10.2	263,129	10.8	252,620	10.2
Corn	1,055,273	42.1	1,128,997	46.4	1,130,512	45.5
Total	2,505,465	100.0	2,431,722	100.0	2,481,207	100.0
Decrease from pre-war average			73,743		24,258	

The increase in the corn area is probably due directly to the land reform and to the increase in peasant farming as compared with estate farming. Both here and in the adjoining district of Voivodina the Hungarian nobles held large estates which, as in Rumania, Russia, Poland, and Germany, were operated for the production of a cash crop, usually wheat. In Croatia-Slavonia there were 363 large estates totaling 609,000 acres which came within the scope of the reform.

In the beginning of 1921, 215,000 acres were distributed among peasants, and 33,000 acres were allotted to ex-service men who had volunteered to serve against the Central Powers. The remainder of the land was yet to be assigned at the end of 1921.

VOIVODINA.

This is the richest wheat district of Yugoslavia. It comprises parts of Temes-Torontal, and Krasov-Severin, these three areas being known as the Banat, a famous grain-producing section. It also includes parts of Baranya, Batchka, and Csongrad, the southern and richest portions of the cereal lands formerly included in the Kingdom of Hungary.

In this district 1,147 large estates, totaling 956,000 acres, were subject to the land reform. Of these 242,000 acres were distributed among farmers and 50,000 acres to volunteers. The owners of these estates were extensive breeders of horses and consequently required large quantities of oats. The small farmers produced swine and therefore grew corn. The redistribution of the estates is reflected in Table 143, which shows a decrease in the areas under wheat and oats and an increase in the corn acreage:

TABLE 143.—*Cereal acreage in Voivodina.*

Cereal crop.	1910–1914		1920		1921	
	Acres.	*Per cent.*	*Acres.*	*Per cent.*	*Acres.*	*Per cent.*
Wheat	1,328,244	43.3	1,113,228	41.6	1,159,354	41.0
Rye	53,186	1.7	25,323	1.0	29,635	1.1
Barley	115,210	3.8	106,386	4.0	104,704	3.7
Oats	370,200	12.1	198,755	7.4	204,127	7.2
Corn	1,201,141	39.1	1,230,271	46.0	1,330,317	47.0
Total	3,067,981	100.0	2,673,963	100.0	2,828,137	100.0
Decrease from pre-war average			394,018		239,844	

The crop season of 1920–21 started out unpropitiously with an autumn in 1920 too dry to admit of a normal seeding. Yet in the spring, spring wheat was not seeded to an abnormal extent; so that it is probable that the increased corn area is partly to be accounted for by the low seeding of winter wheat. However, much of the increase in the corn area is permanent, and this will be at the expense of wheat and oats for the reasons above indicated.

In this northeast district, the crop season was reported to be bad. In some sections little more grain was threshed than enough to recover the seed. The average yields were from 9 to 12 bushels to the acre, as compared with pre-war averages of from 19 to 21 bushels per acre. For these reasons the surplus in this district was greatly reduced below the pre-war average, as will be noted from a comparison of Tables 126 and 127.

In Table 127 a new norm has been introduced for Voivodina unlike any other previously employed in this report. As was shown in Table 129, 4,405,000 bushels of wheat and flour in terms of wheat were exported from Yugoslavia from July 1, 1922, through June 30, 1922, most of which came from the 1921 crop. The wheat, with the exception of about 75,000 bushels exported to Greece, was shipped up the Danube direct to Austria, Czechoslovakia, and

Germany. This export wheat must have come largely from the Voivodina region. If we employ the pre-war norm of 5.9 bushels as the wheat and rye requirement, we would have in this district a surplus of only 1,700,000 bushels, which is obviously too small, as over 4,000,000 bushels were actually shipped. But if we put the German, Hungarian, and other similar populations on the Hungarian ration of 6.13 bushels, and the Serbian, Slavic, and Rumanian populations (54 per cent of the total) on the old Serbian ration of 2.25 bushels, we arrive at the norm of 4.03 bushels per capita per year for the entire population of Voivodina. Employing this norm we arrive at a theoretical surplus for export of 4,298,000 bushels, which is nearer the true situation than the theoretical surplus obtained by the use of the Hungarian norm. This surplus is, however, only about one-third of the average pre-war surplus, even with the use of the 5.9 bushel norm for the earlier period.

THE FUTURE OF YUGOSLAVIA'S GRAIN TRADE.

The present internal grain trade of Yugoslavia is somewhat artificial due to the domination of former Hungarian and Austrian commercial influence in the district of Voivodina, the district having the greatest grain surplus. If the needs of the country's own population were supplied in the same degree as before the war there would be large imports of grain and no exports. But these needs are not being supplied because of difficulties of transport, lack of an internal distributing organization, and the superior organization in the surplus districts of the banks which concentrate grain for export. They do this because they are already organized to do it. The trade is profitable and they know the credit standing of their buyers. However, all this must be and will be reorganized in time. The annual exportation of grain from Yugoslavia will average about 100,000 to 200,000 tons when conditions become settled. In good years it may rise to 300,000 tons or more and in poor years it may fall to zero.

Since the war the peasants have made a great effort to increase their real wealth rather than to accumulate paper money which is steadily depreciating. Livestock statistics for the area embracing the old Kingdom of Serbia show that there are more cattle in that territory to-day than in 1910. Swine also have nearly reached their pre-war numbers. This means a demand for feeding stuffs for livestock and, consequently, a preference for increasing corn and forage areas, rather than for putting land into cash crops, especially wheat, rye, and oats. This same tendency is shown in all the countries of the Danube Basin. It will probably have a more or less permanent effect; that is, the wheat areas will probably not return to their pre-war normal. This tendency is a result of the land reform which has abolished the feudal system and given the land of the great estates to the peasants.

In Yugoslavia these reforms had been effected before the war in the independent districts, and were therefore only necessary in the former Austrian and Hungarian subject States of Croatia, Slavonia, Voivodina, and to some extent in Bosnia. Thus since the changes in the agricultural system have been less, this tendency toward increasing the number of livestock, while marked, is less apparent

in Yugoslavia than in Rumania to the east, where changes in land tenure have been more marked.

On the whole, Yugoslavia is recovering her normal agricultural status and it will only be a very short time before the kingdom will be producing as much grain as in the years before the war, except as modified by the influences just described.

The Kingdom of Yugoslavia, organized as it was out of part of the wreckage of the Austro-Hungarian Empire and the little Principality of Montenegro, with the old Kingdom of Serbia, as a political nucleus, is not yet an economic unit. It has not yet been bound together by railroads and trade routes. It has as yet no financial organizations strong enough to organize the internal trade in grain. Once Yugoslavia is unified economically as well as politically it will not only become self-sustaining in its grain supply, but it will have both a theoretical and a practical surplus for export.

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